MONDAY, JULY 1, 1872.

ORIGINAL LECTURES.

ON EMETICS.

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LECTURE II.

Symptoms attending upon the Operation of an Emetic.—The first evidence of the effect of emetic substances is the peculiar feeling in the gastric region that is termed nausea.* This occurs ten or fifteen minutes after the article is taken into the stomach. It is attended with swimming of the head, quivering of the lips, flow of saliva, and pallor of the countenance and lips; the eyes lose their lustre, etc.; there is a sense of faintness and relaxation; the pulse becomes feeble; and a cold, clammy exudation takes place from the skin. During vomiting, which succeeds to these symptoms, the circulation is perturbed and embarrassed, the head becomes congested from the impeded return of blood, and there is a feeling of fulness of the vessels of the brain; the face is flushed, the eyes are injected, and the temperature is raised. The pulse then becomes fuller from the pressure on the aorta and the impediment to respiration. When the operation has been completed, the system becomes tranquillized, the perspiration is uniform, the pulse sinks somewhat below the previous standard,—is somewhat weaker,—and there is a disposition to sleep. The perspiration now established is free and warm, unlike the cold, clammy perspiration during the nausea and early depression. Sometimes the above-enumerated symptoms may be more intense than specified,—the face may swell and become discolored, and there may be pain in the head and eyes, which become turgid and watery.

Matters Ejected.—The matters that are ejected are the contents of the stomach, mucous secretion from the stomach, and bile that has been forced from the gall-bladder into the duodenum and thence passes into the stomach; and lastly mucus is discharged from the bronchi and trachea. Bile in itself is emetic, and hence when irritation of the stomach or of the duodenum has extended to the liver bile is secreted inordinately, and being conveyed to the stomach excites vomiting. There are certain persons in whom this is of ordinary occurrence. When vomiting is violent and prolonged, there can be no doubt that the secretion of the pancreas adds to the materials ejected.

A phenomenon that should not be overlooked in connection with vomiting is the distention of the stomach with air. This air has been swallowed in the spasmodic efforts attending nausea and preceding vomiting, and after filling the stomach is discharged with solid and liquid matters.†

The nature of the matters thrown from the stomach depends upon the affection under which a patient is laboring, and hence in cancer of the stomach they have special characteristics. The same is the case in hæmatemesis, where the blood that is effused is thrown up; in yellow fever, where black vomit indicates a hemorrhage with digestion partially of the blood; and so it is in melæna, in cholera, etc. Diagnostic indications, in fact, are derived from this source.

Bilious vomiting does not occur in the first instance; it results from the pressure upon the liver as an after-effect. The same may be said of the pancreatic fluid, which at last presents itself as a glassy, tough, or ropy discharge.

Ways of Inducing an Emetic Operation.—The ordinary method of administering an emetic article is its introduction into the stomach; and here it may produce its effects in one or other of the modes that have been discussed, namely, by a local impression that is transmitted, or by absorption from the mucous membrane. But the stomach does not present the only absorbing surface of the body. Emetic articles may be introduced into the rectum. Even from the sound skin decided effects will result, as in the case of tobacco, the active principle of which is absorbed. The lungs also constitute an absorbing surface; and hence the emetic effects of smoking tobacco on one unaccustomed to the practice. The rapidity of operation will depend upon that of absorption. The most speedy mode of introduction into the circulation is by injection into the cellular tissue, and this may readily be accomplished by means of hypodermic injection, in cases of urgency.

Variable Nature of the Effects.—The exhibition of emetic substances is not always followed by evacuation of the stomach. Certain individuals are not susceptible of an emetic operation,—there seems to be in them an inability to vomit, although nausea may be induced; and the force of the impression may be directed upon some other organ, or expended upon the system generally. Thus, instead of acting as emetics, some substances may become purgatives, or they may induce great prostration, and determine to the skin with profuse perspiration. This variation may depend upon idiosyncrasy, or it may arise from disease. The mode of administration also may be influential in giving direction to the effects. When disease is the cause of this departure from the usual mode of operating, it is so in consequence of modifying the sympathetic susceptibility existing in the organs concerned in the act of vomiting.

Disparity as regards the time required to operate is also presented by emetics. Some are exceedingly prompt, while others are tardy. And this, again, depends upon the mode of operating. Those whose mode of operating is local are for the most part prompt, as, for instance, mustard or sulphate of zinc; while such as require absorption are slower in their effects, and leave the system more decidedly under their impression. Confirmatory of this statement were the experiments of Dr. Maclagan, who found that when the vagi nerves were cut the sulphates of zinc and copper did not act promptly as usual with these salts; but after some time the effect being produced was attributed to absorption.‡ A latitude of selection is afforded.

Articles not belonging to the class of emetics may occasion vomiting: thus, purgatives under the condition of irritability of the stomach or excessive excitability of the brain may be thrown up. The same is the case with other medicinal articles. Food in itself may be the occasion of vomiting.

The occurrence of the paroxysms of vomiting will depend upon a number of circumstances: thus, if the stomach be fully emptied, the desire to vomit may pass off. If, however, this evacuation is but partially accomplished, there will be a continuance of effort. Again, should bile continue to be regurgitated, it may prove a

* Although the sensation of nausea is referred to the stomach, this does not include all that pertains to it. It is not like mere pain or uneasiness in the organ, which can be strictly located, but there is a general sense of disturbance which must be referred to the nervous system, involving the brain as the organ of cognition, as well as the stomach. The condition is one of unusual malaise connected with the tendency to vomit. To be understood, nausea must be experienced; it cannot be described, nor is it possible to determine what particular condition of the nerves is induced.

† Magendie (loc. cit.), 770.

‡ The Action of Medicines in the System, by Frederick William Headland, M.D., etc., Am. ed., 1839, p. 110.

source of disturbance and prolong the paroxysms. In irritable conditions of the stomach there may be a continuance of the retching; and this, again, depends upon the extent to which the central nerve-masses have been affected by the absorption of the article that has been employed.

Primary and Secondary Effects of Emetics.—The indications for their employment are based upon their evacuant operation and the consequent effect upon the stomach, as well as upon the influence exerted over contiguous viscera,—which may be termed the primary effects,—and additionally upon the impression that is made upon the general system and upon distant organs, which is secondary. Both of these modes of operating are physiological and therapeutical, and both are of great importance.

By unloading the stomach the organ is relieved of matters that oppress and embarrass its function, or that are dangerous from the local irritation produced by them, or which, by absorption from its surface, may act as poisons upon the economy. The local effect of an emetic is alterative to the secreting mucous surface of the stomach, and so far restorative of its functional operations. In connection with the impression upon the mucous surface, and the promotion of secretion from the muciferous follicles and vessels, a fluxionary movement towards the stomach may be attributed to their operation. A case to this effect was reported by Dr. Darwin, where a patient vomited six pints of fluid who had swallowed only one.

Another primary effect is the pressure upon the liver, the spleen, and the pancreas. In the case of the liver, there is a stimulus thus given to the circulation in the organ, and the restoration to a healthy active state, if torpor exists in it; while at the same time the gall-bladder is emptied of its contents.

It is stated by Edwards that the movement of the bile in the excretory canals of the hepatic apparatus must be determined by the fact of the continued production of this fluid in the depths of the liver, whose tissue is little distensible. But the flow of this fluid is accelerated at certain periods, either by contraction of the parietes of these tubes, or of the gall-bladder, or by the intermittent pressure exercised upon this viscus by adjacent organs. This last effect is manifested at each inspiratory movement, and becomes still greater when the parietes of the abdomen contract with violence, as in the efforts of vomiting.*

Haller pointed out the effect of respiration on the flow of bile. Leuret and Lassaigne noticed its discharge from the duct of a horse when the diaphragm contracted in breathing. M. Blondlot has also seen, in dogs, in whom he had established a biliary fistula, that this fluid flowed forth abundantly when the animal vomited, or made efforts for the evacuation of the excrements.†

With respect to the pancreas, free discharge may be thus procured from it; and should the spleen be congested, and languor be present in the portal circulation, the concussion that is experienced will relieve this state and induce a return to normal activity.

The secondary effects, or those upon the system, depend upon the removal of materials that create irritation of the stomach which is reflected generally; upon the abstraction of food, which deprives the system of nutritive elements, and induces a depressing or antiphlogistic impression; and upon a reduction of force in the arterial system, with free secretion from the emunctories, which are the results of the perturbation to which the organs have been subjected, as well as of the sedative character of the agent that may have been employed. The pressure that is made upon the lungs as well as upon the stomach will have the effect of relieving them of accumulated secretions, and thus promote a freer aeration of the blood in them. The throat also is cleansed of vitiated secretion.

As absorption is the result of depression of the circulation, a remote effect of an emetic operation will be the promotion of this physical operation. It may indeed be asserted that the operation of emetics is general and revolutionizing, extending to all the functional and organic movements.

As emetic substances differ materially in the production of the effects that have been stated, they must be selected in accordance with the indication that presents itself in each case to be subjected to treatment. Some of them simply evacuate the stomach without much nausea and subsequent depression; many of the mineral emetics are of this nature, and it may be stated they are such as produce their effects by arousing an influence in the stomach itself, which is sympathetically transmitted to the nervous centres. Some, again, are powerfully perturbative and forcible in their operation, while others are depressing and exhaustive from the nature of the attendant impression upon the nervous and circulatory systems,—effects which are inherent to the article, irrespective of an emetic effect.

The indications for the employment of emetics are:

1. *To unload the stomach, and to remove from it noxious substances.*—In cases where poisonous substances have been taken into the stomach, this indication at once presents itself, and is to be met by articles that operate promptly. Such articles are therefore chosen as produce their effects by a direct action upon the stomach itself, which, by an irritant impression, call forth a reply from the brain that is communicated to the respiratory and abdominal muscles, whose synergy contributes to vomiting. Mustard is one of those thus efficient, as are sulphates of zinc and copper. In those cases where there is danger of the brain being obtunded by the absorption of the poison, decided emetic effects are desirable immediately, and hence the preference given to those articles.

In cases of narcotic poisoning there are two sources of inertia: one, a local paralysis or anæsthesia of the stomach; the other, the obtuseness of the brain and nervous system.

Enough of the emetic substance must be given to induce the effect, while care is to be exercised lest the irritation produced be so great as to be in itself injurious. Inflammation of the stomach may arise from too large a dose.‡ To emetics of this kind may be attributed the local impression specified by Barbier as decidedly irritative to the gastric mucous surface, "which becomes engorged and reddened, warmer and more sensible," and this state is extended to the duodenum. If the condition exist that has been termed by him a "sort of crispation which closes the pores," the absorption of a poisonous article may be interdicted; and hence the further advantage of such articles in narcotic poisoning.§

It is not difficult to diagnosticate the presence of crude, indigestible, offensive matters in the stomach, especially when a knowledge is possessed of the physical temperament of the patient, and of the kind of life that is led, and the usual food taken. The existence of this gastric load is sufficiently demonstrated by the tension and oppression of the præcordial region, or by colicky pains, by anorexia, and nausea, and there may be general malaise, feverish excitement, or derangement

*Op. cit., vi. 473.
†Essai sur les Fonctions du Foie, 1846, p. 63.

‡A case of poisoning by laudanum is given by Mr. Stanley in the 6th vol. Transactions of College of Physicians, where inflammation of the stomach was produced by sulphate of zinc given, but not acting. See also Paris, Pharmacologia, ed. 1843, p. 199.
§Traité élémentaire de Matière Médicale, par J. B. G. Barbier, Paris, 1830, tome iii. p. 304.

of the nervous system, with headache. Accompanying these symptoms are a vapid and bitterish taste, fuliginous coating on the tongue and palate, fetid eructations and breath. Delirium sometimes is engendered from this cause, or the brain may be affected, with stupor or simulative apoplexy.

The choice of relief in cases of this description lies between emetics and purgatives. It was inculcated by Hippocrates, and repeated by Galen, that matters which oppress the economy should be thrown off by organs the most convenient. Purgatives are to be preferred where the tumefaction is in the lower abdomen,—when there is constipation, flatulence in the intestines, weight in the lumbar region, and indications of the lower bowels being the seat of disturbance.*

Children frequently suffer from indigestible matters in the stomach, becoming restless, sleepless, and feverish; or if sleep occurs, it is attended with startings, half-delirious wakings, cries, and moans. The abdomen is hard and distended, and the tongue furred. A mild emetic under such circumstances affords the required relief.

When colic can be clearly traced to the presence of irritating ingesta, the simplest mode of treatment is to evacuate the stomach.

By removing offending matters from the stomach, heathy secretion is promoted. It is impossible for these substances to remain for any length of time in contact with the mucous membrane without giving rise to disordered secretions, and this is shown in the furred tongue and foulness of the mouth produced by their presence in the stomach. Not only is healthy digestion interfered with, but by fermentation new matters are generated to produce irritation: hence where acidity and where what has been termed a *saburral condition* exists, not confined solely to the mouth, but extending to the stomach, a complete emptying of the organ and stripping it of its adherent secretions will relieve the mucous membrane of a clog upon its restorative tendency, and secure healthy secretion from it.

The pasty, viscid, fetid matter that is produced upon the tongue and pharynx, most probably extending to the stomach, and which is composed of effete epithelial structure and decomposed mucus, cannot be attributed to inflammation. The mucous surface beneath the deposit is pale. The formation of such matter may originate in irritation, but it is evidence of depraved nutritive activity that has taken the place of healthy action in the mucous membrane. It may be, however, that the state of irritation induced in the way specified may pass into inflammation. Aphthæ are attributable to this perverted state, and may sometimes be relieved by a gentle emetic. Local deranged activity may be changed, and a new condition substituted for it. It has been supposed by Trousseau and Pidoux that a substitutive impression is made by the use of emetics.

Cutaneous affections may be the result of a sympathetic influence from the stomach, induced by articles taken into it which disagree with it. Urticaria, for example, may be traced to this cause. In this, however, idiosyncrasies play a very important part. To remove the offending substance is the proper plan of treatment.

In exanthematous diseases emetics were formerly much employed. Dr. Richard Harrison, of London, recommended them highly in scarlatina.

Where the intention is simply to relieve the stomach, the mildest articles are to be employed.

In the treatment of "Putrid Malignant Fevers," by which Huxham evidently meant Typhus, he especially dwells upon the propriety of washing out the stomach. In this, he asserts, assistance is given to nature. "Scarce any infectious fever makes an attack on any person without bringing on a sickness at the stomach and vomiting. As the morbific effluvia are swallowed with the saliva, etc., may they not, in part at least, be washed off and rejected by co-operating with nature in promoting vomiting? By which also any bilious acrid putrid colluvies that may lie in the stomach is carried off, which otherwise, by growing more and more corrupt, would produce a variety of ill symptoms and greatly increase the original disease."†

Dr. Chapman, who maintained the gastric origin of fevers long before the promulgation of the doctrines of Broussais, declared "that emetics are highly important remedies in fevers, which for the most part are attended in the commencement with nausea, vomiting, and other indications of disordered stomach. They, under such circumstances, are productive of much advantage."‡

What applies to continued and intermittent fevers applies to all diseases where the vital forces are oppressed by offensive saburral materials which abound in the digestive canal. Stoll appreciated this condition in inflammation of the lungs, connected with gastric embarrassment, and established the most useful rules for its relief. The affection is now known as bilious pleurisy, or bilious pneumonia. Emetics in this disease are advantageous whenever there is accumulated in the stomach or duodenum a considerable quantity of bilious irritating matters of a sour, bitter taste, a disagreeable odor, and a green color. The practice of Stoll is concurred in by Dr. Chapman. This affection, which seems to have a relation to the miasmatic fever of the southern country, will not, according to this authority, bear general depletion, but may be treated with other evacuants. "Desisting, therefore, from venesection, or using it with moderation and care, we rely mainly on the thorough evacuation of the alimentary canal by antimonial emetics and mercurial purges, and subsequently by diaphoretics, relieving the affections of the chest and head by topical bleeding and blisters."§

2. *To unload the organs contiguous to the stomach, to promote secretion from these organs, and to excite the portal circle.*—Incases of jaundice or chronic hepatitis, there is a static condition of the blood in the liver and in the portal circle which may be removed by the concussion of an emetic, so that the functional secretory operations may be restored and congestion relieved. If too much excitement or inflammatory action be not present, happy results may follow the operation.

Dr. Paris informs us that by violent and protracted retching a person will sometimes become jaundiced. This is owing to regurgitation of bile from the acini of the liver into the venous system, occasioned by pressure upon the organ and the gall-bladder. Haller has shown with what facility a subtle injection, when thrown into the hepatic duct, will escape by the hepatic veins, upon which Dr. Saunders observes, "I know this to be a fact, for I have ascertained by experiment that water injected in the same direction will return by the veins in a fuller stream, though very little force be used."‖

It has been the custom to commence the treatment of autumnal fevers with an emetic, with the intention of unloading the liver, of promoting secretion from that organ, and at the same time of impressing the portal circulation. The older pathologists laid much stress upon the presence of bile in the stomach and alimentary canal in autumnal fevers. Stoll supposed that bile accumulating in the stomach and intestines irritated

* Elémens de Thérapeutique et de Matière Médicale. Alibert, vol. i. p. 221.

† An Essay on Fevers, by John Huxham, M.D., edition of 1872, London, p. 111.

‡ Elements of Therapeutics and Materia Medica, by N. Chapman, Professor of Institutes and Practice of Medicine and Clinical Medicine in the University of Penna., 1827, vol. i. p. 122.

§ Op. cit., vol. i. p. 140.

‖ Pharmacologia, p. 205.

these organs, and when reabsorbed and carried into the circulation produced disturbance of the heart and fever, irritated the brain, and caused delirium, apoplexy, or convulsions, and even induced inflammation of the pleura or lungs. When the school of "gastric pathology" came into estimation, another doctrine was taught: "that bilious fever is a gastro-enteritis with predominance of sympathetic irritation of the liver.* The bile then was supposed to be produced in quantity by the extension of irritation from the mucous membrane to the liver.†

Although influences of an irritative character that are brought to bear upon the mucous membrane at the mouths of glandular ducts may exert a reflex nutritive influence upon the secretion of glands, and thus in the case of the liver may be a cause of increased flow of bile, yet in fevers presenting bilious symptoms there is a deeper-seated pathological cause for the disorder of this organ and for the concomitant derangements. Emetics then are not to be given for the mere purpose of evacuating bile, however much relief may be afforded by its discharge from the stomach; or for a substitutive action upon the mucous membrane; but to impress the chylopoietic viscera, and to relieve the organs concerned in hæmatosis which are embarrassed by congestion, with a static condition of the blood and suspended function.

Much stress has been laid upon the promotion of secretion by the irritation produced by emetic substances being transmitted to the secreting organs through the ducts. Barbier states, with reference to the liver and pancreas, "We know that irritation induced by an emetic substance upon the extremities of these ducts is felt by the organs to which they pertain. During the action of an emetic, these last undergo a change analogous to that noticed in salivary glands when any substance is held in the mouth that irritates the extremity of their excretory ducts: the vitality of these glands is augmented, blood is disposed to their parenchyma, their secretory action is accelerated, and there is discharged an abundance of fluid."‡ Although this is true as a general rule for irritating substances, still it cannot be said that in the case of some emetics it is correct. Small quantities of tartar emetic or ipecacuanha may be attended with profuse secretory action, and we must seek for the explanation in the depressing influence exercised upon the nervous and circulatory systems from absorption, which is felt in the secerning organs. It is similar to that exhibited upon the skin. The salivary glands which have not felt reflex irritation locally from the mouth are equally affected with undue secretion when an emetic enters the circulation. Nausea and depression of circulation in organs may induce free secretion from them.

In fevers of a miasmatic origin complicated with bilious symptoms there is obvious depravation of the functional if not of the organic processes of the liver, with a derangement of the normal condition of the spleen. It has been demonstrated that hæmatosis is interfered with, and but imperfectly performed; black pigmentary matter, the débris of the organic corpuscles of the blood, is abundant in this fluid, and deposited in the tissues, especially the serous coverings of the organs. Under these circumstances, to give a gentle impulse to the circulation in the organs evidently concerned in the production of healthy nutrient fluid cannot be otherwise than promotive of good results.

When a paroxysmal fever, not marked by bilious symptoms, is attended by enlargement of the spleen and by portal obstructions, the concussion from emesis may give an impetus that is salutary to the circulation, and aid in the restoration of functional activity. It was recommended by Galen, and practised by subsequent physicians, to break up chills by anticipating their occurrence. The practice was advocated by Sydenham, and it had been inculcated by Alexander of Tralles. Dr. Chapman states that in the malignant forms of intermittent fever, "when in the cold stage reaction does not take place, and as a consequence undue accumulations of blood exist in the brain, or lungs, or some of the abdominal viscera, inducing a perilous state of things, active vomiting is productive sometimes of the most important effects."§

In connection with the chill of intermittent fever, sometimes there is vomiting of quantities of bilious matter, evidently from the sudden arousing of the activity of the liver by the retrocession of fluid from the exterior portions of the body. There is engorgement of the chylopoietic viscera, with modification of the internal nutritive processes.

It has frequently happened that when the usual antiperiodic treatment has been ineffectually pursued, the employment of an emetic has been perfectly successful in the removal of the pathological conditions referred to and in enabling the preparations of cinchona to become absorbed.

From the mechanical force applied to the abdominal organs, assistance is given to the passage of gall-stones in bilious colic, or even of calculi from the kidneys in their passage to the bladder. The relaxation induced by emetic articles concurs to this end. This is a method which nature herself not unusually adopts, as sympathetic vomiting attends the attacks of pain from such cause, and relieves the affection.

In cases of persistent and obstinate constipation of the bowels, the use of emetics has been successful. This is owing to the concussion produced upon the intestines, and especially the colon, and to the relaxation attended with free secretion from the glandular organs. A full flow of bile and intestinal mucus will act cathartically. Attention was drawn to this mode of treatment by a paper of Dr. Hossack;‖ although it has since been shown to be an old mode of medication.

* This is the language of Trousseau and Pidoux, who did not belong to the school of Broussais.

† An inordinate flow of bile may occur without fever of a bilious nature; and gastritis, when pure, either idiopathic or factitious, exists without bilious symptoms.

‡ Traité élémentaire de Matière Médicale, tome i. p. 304, Paris, 1830.

§ Op. cit., vol. i. p. 124.

‖ *New York Medical and Physical Journal*, vol. i. The review which shows its ancient origin is in the *London Medical Repository*.

ORIGINAL COMMUNICATIONS.

HÆMATOXYLIN AS A STAINING MATERIAL FOR ANIMAL TISSUES.

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AMONG the many useful reagents which are employed by the histologist in the investigation of tissues, those known as *staining materials* deserve to be esteemed of great value.

Since the introduction of carmine by Gerlach, many facts have been brought to light, by the aid of this substance in tinting animal structures. The points connected with coloring artificially are too well known to require any mention of their merits. I wish, however, to call attention to a means of staining that possesses some advantages over carmine, and, so far as I can learn, has only been employed to a limited extent abroad and at home.

To make a successful "carmine imbibition" requires some little practice, and even the best results obtained

leave one point at least untouched. The special action of carmine is upon the *nucleus* of the cell. This becomes highly colored, and the protoplasm is left unstained, except in the case of a very prolonged action of the tinting fluid,—when both parts of the cell are colored alike. Of course, in the first instance, much will be lost when the tissue is mounted in any substance such as balsam or damar. Again, the objection to the over-staining lies in the fact that no distinction can be made between the nucleus and the protoplasm. In the case of tissues which require preliminary hardening, in order that fine sections may be made, unless drying—*i.e.* desiccation—freezing, or alcohol be the means of accomplishing this end, carmine gives rather poor results. The imperfection of carmine imbibitions is well known when the tissue has been hardened by chromic acid or bichromate of potassa. Alcohol as a means of hardening tissues is of the greatest service, but there are cases in which it is much more desirable that the tissue should be treated with some of the chrome preparations, and finally with alcohol, or that the entire hardening should be effected through the agency of either chromic acid or the bichromate of potassa.

I wish now to describe a process that seems to do away with the two objections raised against carmine. This method I have made use of for nearly two years, and the excellent results it gives can be vouched for, not only by myself, but by many students who have worked under my directions; in fact, it has taken the place of carmine in my laboratory to a considerable extent. The coloring-matter of logwood (*Hæmatoxylon campechianum*) is one of the most valuable staining materials known to me.

This substance was, I believe, first used by C. F. Müller in his investigations on the cornea. The method which is recommended by Müller can be found in the works devoted to microtechnology. I wish to give merely the manner in which the staining solution is made and used in my own laboratory.

The ordinary logwood extract is finely pulverized in a mortar, and about three times its bulk of alum (in powder) added. The two ingredients are well rubbed up together, and mixed with a small quantity of distilled water. The *complete admixture* of the alum and hæmatoxylin is necessary, and this will require fifteen to twenty minutes' vigorous stirring. More water may now be poured on, and the solution, after filtration, should present a clear, somewhat dark violet color. If a dirty red is obtained, more alum must be incorporated, and the mixture again filtered. By always having an excess of both alum and hæmatoxylin in the mortar, a saturated solution can be obtained, which, after infiltration, may be combined with alcohol,—one ounce of the logwood fluid with two drachms of seventy-five per cent. alcohol. I have found that a much better color can be had by allowing the mixture, after thorough trituration, to stand for several days before filtering and adding the alcohol. Should a scum form on the surface of the liquid after it has been some time made, a few drops of alcohol and careful filtering will be all that is required. With a strong solution, such as has been described, the coloring is very rapid, requiring but a few minutes; whereas, if a slower tinting be desired, the fluid may be diluted with a mixture of one part alcohol and three parts water. Whether the tissue has been previously hardened in alcohol or in any of the chrome compounds, it is colored equally well,—the nucleus, of a most brilliant purple; the cell-body, of a distinct neutral tint. An *over-staining* causes an almost perfect blackening of the nucleus, while the protoplasm becomes purple. In many instances where carmine has given but indifferent results hæmatoxylin will be found to succeed most admirably. As to the stability of the coloring, I need only remark that specimens tinted and mounted in December, 1869, show as perfectly as when first put up.

I would conclude with the following method of treating pathological new formations (histoid tumors), etc.

The cut is placed for the required time in the hæmatoxylin fluid, and is then immersed in distilled water to remove the crystals of alum which might otherwise adhere to the surface of the tissue. From water the section is transferred to seventy-five per cent. alcohol, when, after soaking for from ten to fifteen minutes, it is clarified in oil of cloves,* and may be either mounted immediately in balsam dissolved in chloroform, or in damar varnish.

It might appear contrary to all that has been written on the subject of treating tissues to advise that the section should only be placed in moderately strong alcohol before clarifying and mounting, but by means of oil of cloves and the process I have given none of the curling up and distorting will follow which cannot be avoided when absolute alcohol, benzole, or turpentine is employed to dehydrate and render transparent. All that I ask is that those who are interested in making preparations of animal tissues should satisfy themselves as to the truthfulness of the statements here made.

THE IMPORTANCE OF EARLY DIAGNOSIS IN SPINAL ARTHROCHONDRITIS,

AS ILLUSTRATED BY THE HISTORY OF TWO CASES.

BY BENJAMIN LEE, M.D.,
of Philadelphia.

CASE I.—J. W., resident of Philadelphia, examined November 30, 1868, aged six years; both parents living, and in good health; pulmonary phthisis inherited on father's side through two generations; general health moderately good; not robust; complexion fair, skin thin, hair brown, temperament nervous, digestion rather feeble; has a slight tendency to nasal catarrh. One week since, she fell, in going down a flight of marble steps, striking her back on the edge of a step, and rolling down to the sidewalk. Although she walked a short distance afterwards, she complained of feeling very tremulous. The next day she appeared to be in her ordinary health. In the course of a week, however, she began to exhibit an unusual irritability of temper, and to complain of pain in the breast. This led her mother to seek my advice. Upon questioning her, I found that the pain in the "breast" had its seat at the epigastrium. This, with the history of the fall, induced me to examine the spine very carefully, but I could discover nothing abnormal in that region. I prescribed a stomachic, and directed that she should be carefully watched, and guarded from all violent exercise. At the end of a week I examined her again. The epigastric pains had in the mean time increased, and had become more paroxysmal in their character. She complained of fatigue after very slight exertion, and easily lost self-control, bursting into tears on very slight provocation. I now detected a deviation of the spinous process of the fifth dorsal vertebra to the left, but so slight that but for the previous examination I should have been inclined to consider that this was its normal position. Feeling, however, that it was my duty to give her the benefit of the doubt, I directed her to be placed upon her back, and kept her there for a month. In spite of this precaution, the symptoms all became aggravated. The attacks of gastralgia increased in frequency and intensity. Morning rigidity made its appearance, together with difficulty in flexing the spine, as in the effort to pick up any object from the floor. She also began to complain of weakness in the lower extremities, especially the right, and, when sitting on the edge of the bed, with the toes touching the floor, spasmodic contraction of the gastrocnemius of the same side caused a very noticeable quivering of the foot, thus indicating irritation of the spinal meninges. The appetite was capricious, sleep disturbed, and the spinal deviation

* Light oil of cloves is the best.

became more apparent. I now felt very sure that I had to deal with an acute inflammation of one or more of the vertebro-cartilaginous surfaces of contact, if not of a vertebral body itself, and that no time was to be lost. I accordingly applied a spinal splint, with the pads opposite the point of fancied deviation in the dorsal region, and removed the interdict of the erect position and exercise. The effect of efficient support was little short of magical, and left no doubt in my mind as to the correctness of my diagnosis. Her languor and irritability vanished almost immediately. The gastric pains began to diminish in frequency and severity. She very soon dispensed voluntarily with the daily rest which I prescribed. Her appetite became regular, and in the course of three months there was not a symptom left to indicate the terrible malady which had threatened to cast a gloom over her entire life, if indeed it had not brought it to an early termination. As a matter of precaution, I insisted on her wearing the instrument until the end of the sixth month, and after that occasionally, when anticipating unusual fatigue. I think I am justified in saying that she never had a moment's serious inconvenience from its use. Her health has continued perfectly good ever since, and there is no sign of any spinal deviation from the normal line.

With this very gratifying result I desire to contrast the following.

Case II.—G. C., May 21, 1869, aged two and a half years, complexion fair, hair very light, eyes blue; resides in Reading, Pa. Introduced by his family physician. Family antecedents give no suspicion of strumous taint. Just one year ago, he had a severe fall down a flight of stone steps leading into an area in front of his father's house. This caused a temporary loss of consciousness, apparently of the nature of syncope rather than of concussion of the brain. In about a week's time he began to complain of gastralgia. The ordinary household remedies for "stomach-ache" being exhausted without procuring relief, a physician was consulted, who pronounced the child to be suffering from worms. The various anthelmintics, however, failed to remove the pain. As it became more severe, it gave rise to the suspicion that it might be inflammatory in its origin, having its seat somewhere in the alimentary canal; and a course of medication was instituted in that belief. This only aggravated the trouble. The little patient became emaciated, lost appetite, slept badly, and was evidently losing ground rapidly. Between two and three months since, it was noticed that he began to carry himself rigidly, and to lean a little towards one side, and soon after that he was losing strength in his lower extremities. This led his physician to make an examination of the spine, which resulted in the present consultation. Present condition: face pale; flesh soft and flabby; patient holds himself very stiffly, refusing to stoop to the floor; bends considerably towards the right side; strong contractions of the *psoas* muscles, producing considerable flexion of the trunk on the thighs in standing; occiput thrown backwards and downwards, tilting the chin up. From the sixth cervical vertebra the spine yields anteriorly to a slight extent, and bulges posteriorly in the lower dorsal and upper lumbar regions; feet both strongly inverted; can take but two or three steps without support, and only stands by leaning on his elbows; suffers intensely from paroxysms of gastralgia; and is very rigid when first aroused in the morning. His physician was disposed to locate the spinal affection—of the existence of which he was now convinced—in the dorsal region. I felt sure, however, that the long curve there noticed was simply due to the relaxed and partially paralyzed condition of the spinal muscles. The attitude of the child was extremely characteristic of disease in the cervical portion of the column; and the forward inclination in the lower part of this region, though slight, was quite sufficient to account for the symptoms; while at the same time there was a degree of distortion of the thorax anteriorly which could not have resulted from the deviation lower down. I accordingly, on the 26th of May, applied a splint designed to give support to the region designated. That night, for the first time since he began to suffer from the attacks of abdominal pain, he had a quiet night's sleep. He soon began to walk without assistance, and his general condition has improved very satisfactorily ever since. It is evident, however, that the destructive process in the vertebræ is not yet checked, as there has been an increase both of the spinal and the thoracic deformity which it has been utterly impossible to prevent. The best result that we can hope for in such a case is restoration to a fair degree of health, with diminished stature and very noticeable deformity,—a lifelong burden and sorrow.

In comparing these two cases, we notice, first, a similarity of accident, followed by, secondly, a train of symptoms almost identically the same. It is probable that a more careful and intelligent observation would have recognized the other essential signs in the second case much earlier than they were noticed by the child's mother; but the most important and striking symptom, that of paroxysmal gastric or abdominal pain, appeared in each at just the same interval after the accident. The accessory conditions were all rather in favor of Case II. The freedom from hereditary taint in his case, and its existence in the other; his residence in a small country town, in the midst of a range of hills celebrated for their salubrity,—hers in the heart of a large city: both of these circumstances should have told strongly in his behalf. *Early diagnosis* is the only factor to which we can trace the health and happiness which one of these children is to-day enjoying; while the failure to recognize the true character of his disease in its initial stage must be held responsible for the suffering and mortification, past, present, and prospective, which have fallen to the lot of the other. I know that physicians often shrink, from motives of kindness, from telling fond parents that there is reason to suspect that their little ones are the subjects of so terrible a disease, and prefer to wait until their suspicions are confirmed by actual ocular demonstration. But this surely is most mistaken kindness, and especially so in view of two important facts which render such cautiousness entirely unnecessary: first, that the affection, taken in its incipiency, before any destruction of tissue has taken place, is, in the majority of cases, as thoroughly tractable as it proved in the first of the two just related; and secondly, that the mother, in nine cases out of ten, suspects, in a vague way, that the seat of the lingering malady is in the child's spine, before the idea occurs to the medical adviser, who too often commits the error of ridiculing her anxious fears, until the occurrence of deformity compels his acquiescence in the justice of her suspicions. I appeal confidently to every reader who has been in the active practice of medicine for the space of ten years to say whether he cannot recall at least one such passage in his professional experience.

1503 Spruce Street.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

SERVICE OF DR. JAMES H. HUTCHINSON.

Reported by Dr. George S. Gerhard.

GASTRIC ULCER—INFLAMMATORY ADHESIONS BETWEEN STOMACH AND SPLEEN.

Bridget McG., æt. 24, native of Ireland, was admitted September 4, 1871.

She stated that her family was healthy, and that she had always enjoyed good health until a year and a half before her admission to the hospital. At this time, after a day of hard work, but without previous warning, she vomited a large quantity of dark coagulated blood, which left her so prostrate that for four days her life was considered in danger. Four weeks after the occurrence of this hemorrhage she had so far regained her strength as to be enabled to resume her work, but she now began to suffer from symptoms of digestive derangement of a marked and persistent character. About eight months before her admission, pain became a prominent symptom; this was invariably referred to the left hypochondriacal

region, and was never relieved by hot drinks or pressure. The note taken on the 1st of November is as follows:

"Since her admission to the hospital the patient has been almost constantly in bed, and has suffered greatly from pain in the left hypochondrium. Her appetite has been good, but only the best food that the hospital affords has rested well upon her stomach. Vomiting has occurred occasionally, but the ejecta have at no time contained blood. Her tongue has usually been coated, and the bowels have been costive. The urine does not contain anything abnormal. The blood, when examined under the microscope, presents a normal relation between the red and white corpuscles. When firm pressure is made in the left hypochondriac region, an ill-defined resistant tumor can be felt; the impulse of the aorta is transmitted through the mass, but there is no murmur or thrill connected with it. There is an absence of dulness in the normal region of the spleen; in the left lumbar region posteriorly there is an abnormally extended area of dulness."

The patient's treatment for several weeks past has been essentially dietetic; she is now taking pepsin and small doses of the tincture of the chloride of iron.

November 11.—The patient still suffers from pain, but her other symptoms have improved.

December 5.—The patient now gets up for a short time every day. Her diet is now unrestricted.

January 3.—The patient is now well, and asked to be discharged to-day. The tumor can still be felt in the left hypochondrium.

The diagnosis in the case was at first difficult, but, from an attentive consideration of the past history of the patient, Dr. Hutchinson had little difficulty in deciding that the case had originally been one of gastric ulcer,—that this had given rise to a localized peritonitis which had resulted in an adhesion of the spleen to the stomach. The ill-defined tumor which was felt in the left hypochondrium was then the spleen somewhat displaced, and the attacks of pain from which the patient suffered so constantly were in all probability due to the interference with the movements of the stomach caused by the products of a previous inflammation. Attention was called by Dr. S. O. Habershon in the Guy's Hospital Reports, 3d Series, vol. xvi., to the fact that fixed abdominal pain is often dependent upon adhesions of an inflammatory character; and the case just reported presented many points of similarity to those described by him. There was every reason to believe that cicatrization of the gastric ulcer had taken place, for the pain was not increased after food, or by the ingestion of an irritant, and the emaciation, which was at first a very prominent feature of the case, yielded to the employment of nutritious food.

ERYSIPELAS IN A PARTURIENT WOMAN.

Mary W., an American, unmarried, was admitted November 12, 1871.

The patient stated that her health had generally been good. About a week before her admission to the hospital, she had a syncopal attack, followed by vomiting and a feeling of malaise. These symptoms, however, soon passed off, and she was quite well until four days afterwards, when she was seized with a violent burning pain in the left temple, followed by redness and swelling of the face in the left parotid region. The right side of the face became involved two days afterwards.

On admission, the patient presented well-marked symptoms of facial erysipelas. The greater part of the left side of her face was red and swollen, but on the right side the parotid region alone was involved. The edges of the red patches were elevated above the level of the healthy skin and abruptly defined. The constitutional disturbance, though marked, was not excessive.

The patient was about eight months gone in pregnancy. She stated that she had not had any symptoms of an approaching labor.

She was ordered twenty drops of tr. ferri chl. with a grain of quinine every three hours, and an appropriate diet.

Labor-pains began early on the following morning, and in a few hours after their commencement she was delivered of a small child. The labor was perfectly normal.

November 14.—The patient is doing well; her temperature is 101½° and her pulse 100. The after-pains are moderate; the lochia are scanty; the breasts are entirely devoid of secretion. The erysipelas has now extended to all parts of the face, with the exception of a space in which are included the upper and lower lips and the chin. The parotid and submaxillary glands are swollen.

November 16.—The patient had severe dorsal pains last night; they were, however, relieved by an opium suppository. She is delirious this morning, and states that everything appears of a green color. She has tinnitus aurium and some emotional disturbance. Her pupils are contracted. Her urine is heavily loaded with urates, but does not contain albumen.

November 17.—The patient talks somewhat at random to-day, but her vision is no longer disordered. The redness of the face is diminishing. Her temperature is 103° and her pulse 120. Her tongue is, as it has been throughout, furred. Her stomach is retentive. There is no abdominal tenderness. The lochia are still scanty. The mammary glands continue inactive.

November 18.—Her mind is perfectly clear to-day, and her temperature is normal. The redness of the face has almost entirely disappeared.

November 20.—The patient is very weak to-day, and her mind is somewhat excited. Her temperature is 99° and her pulse 76.

November 21.—All the symptoms of a fresh attack of erysipelas are present to-day. The blush is confined to the right side of the nose and the upper lid of the right eye.

November 22.—The patient's mind wanders to-day. The blush now involves the greater part of the face. There are no symptoms that cannot be ascribed to the erysipelas.

November 24.—The scalp is now tender to the touch, and pits on pressure. A.M.: temp., 99°; pulse, 92. P.M.: temp. 104°; pulse, 120.

November 26.—The patient is better to-day. A.M.: temp., 99°; pulse, 116. P.M.: temp., 103°; pulse, 100.

December 5.—She is out of bed to-day.

December 12.—There is a small patch of redness on the left side of the nose. The patient, however, feels well, and is without fever.

December 13.—The symptoms of another relapse are all present to-day. The patient's face is greatly swollen and very red. The eyes are completely closed. Temp., 104°; pulse, 124.

December 15.—The symptoms are now subsiding; she is now able to open her eyes. Temp., 101°; pulse, 100.

December 17.—The patient is now convalescent.

December 24.—She has been out of bed several days. She is taking a tonic, and is rapidly gaining strength.

December 31.—The patient was discharged to-day.

WILLS OPHTHALMIC HOSPITAL.

SERVICE OF GEORGE C. HARLAN, M.D.

Reported by CHARLES K. MILLS, M.D.

MUSCULAR ASTHENOPIA.

H. S., æt. 32, was a large, rather strong-looking man, but evidently "nervous." He said that his appetite was fair, but that he always had some gastric discomfort after meals. He also stated that he was easily exhausted, had palpitation of the heart after exertion, was subject to slight headache, and had occasionally some mental confusion. The action of the heart was found natural, and examination of the urine detected no albumen or other evidence of disease.

His eyes had been "weak" for three years, but since an attack of dysentery two years ago he had scarcely been able to read at all. When he attempted to do so, the letters in a few minutes became blurred and confused, "his eyes felt as if they would burst," and he had a throbbing headache and was troubled with dizziness. The same symptoms attended an effort to follow with the eyes the movements of any distant object, as a bird flying, or a ball thrown through the air. Looking out of the window of a railroad-car in motion had the same effect as reading fine print. A sudden and rapid move-

ment of the eyes sometimes almost caused him to fall. When one eye was covered and the axis of the other remained fixed, he could read without much difficulty, following the words on each line by moving the head; when the head was fixed and the eye moved, the same symptoms ensued as when he read with both eyes.

His distant vision was perfect, and there was no trouble when the eyes were at rest. $V = \frac{20}{XX}$, with either eye or with both. The accommodation in each eye was $\frac{1}{8}$, but when both eyes were used it was reduced to $\frac{1}{10}$, by the confusion resulting from the attempt at convergence.

A small object, as a pencil, approached slowly towards the eye, appeared double at eighteen inches. At one foot a prism of 15°, base inwards, was required to fuse the images, but it afforded no relief to the asthenopia. Tested with a distant light, a prism of 10°, with its base outwards, and one of 7°, with its base inwards, could be overcome; but a prism with its base upwards caused a crossed diplopia, which it required one of 5°, base inwards, to correct.

The refraction of both eyes was emmetropic, and the ophthalmoscopic appearances, except perhaps a slight hyperæmia, were normal.

Dr. Harlan considered the pathology of the case obscure, and the prognosis was therefore unfavorable. A course of quinine and iron and iodide of potassium was prescribed, and the patient was recommended to return to the country, where he had formerly lived.

TWO CASES OF WOUND OF THE EYEBALL.

H. V., æt. 18, a seamstress, while engaged at her work, struck her right eye with a needle, which rebounded and fell upon the floor. Examination showed that the needle had pierced the cornea, near its upper border, just within the vertical meridian, and had passed through the iris, and probably the capsule of the lens.

Immediately after the injury, the eye became injected and painful, and its vision was reduced to a bare perception of light. She was admitted to the hospital, after having been treated at home for a week with poultices, rose-water, and various domestic remedies,—the eye constantly getting worse. She complained that at intervals she had severe pain in and over the injured eye, which was very tender to the touch. The conjunctiva was moderately inflamed. No prolapse of the iris or iritis could be discovered. In the lens a commencing opacity was easily detected. No lens-matter had escaped into the anterior chamber. The vision of the uninjured eye was not affected.

Atropia was instilled, blood was taken from the right temple, anodynes were prescribed, and the patient put to bed and ordered to be kept quiet. In a few days the lens had become completely cataractous, and severe iritis with posterior synechiæ had ensued. Inflammatory products from the iris, gravitating to the bottom of the anterior chamber, had produced an extensive hypopion. No swelling of the lens could be made out, and there was no evidence of intraocular tension.

Within a week, pain left the injured eye, but the other became sympathetically affected, the pain and irritation in it being so great that the question of the extirpation of the injured organ was seriously considered. The eye suffering from sympathetic ophthalmia became exceedingly intolerant of light, and both eyes were now treated with instillations of atropia three times daily. Anodynes, counter-irritation, and tonics were continuously employed. The patient remained in the hospital under this treatment, with rest and careful diet, for eleven weeks. When discharged, the inflammation of the injured eye had subsided, and the sympathetic trouble in the uninjured one was relieved.

E. C., æt. 29, a laborer, four days before admission to the hospital, was struck in the eye with a splinter of rock, which ruptured the cornea for a distance of about three lines from its lower outer margin; and into the opening thus produced the iris had prolapsed, carrying with it a little vitreous humor. Vision in the injured eye was $\frac{20}{L}$, and there was some conjunctivitis. Vision in the other eye was normal. No signs of sympathetic ophthalmia manifested themselves.

The protruding segment of iris was snipped off, and the remainder gently pushed back into position by means of a blunt-pointed probe; after which an eight-grain solution of sulphate of atropia was instilled, and the patient put to bed, where he remained for several days. The use of atropia was continued daily. He was discharged at the end of three weeks, the inflammatory symptoms having subsided, the iris being without adhesions, and the pupil dilated, but regular and movable. He reported to the hospital clinic for a month after his discharge, when his vision in the affected eye had reached $\frac{20}{XX}$ nearly.

LACHRYMAL OBSTRUCTION FOLLOWING VARIOLOID.

M. McK., æt. 35, complained that the tears ran almost constantly over her right cheek. She had acute conjunctivitis of the right eye, with lachrymal obstruction. The left eye was unaffected. Four months previously she had the varioloid, before which time her eyes had never given her the slightest trouble. The right eye became inflamed during the attack of the disease, and she had suffered from pain, photophobia, and lachrymation ever since. Dr. Harlan slit up the canaliculus and introduced a medium-sized Bowman's probe into the lachrymal duct. The probing was repeated every other day while she remained under treatment. He also prescribed a weak solution of sulphate of zinc, which was instilled daily for a week. At the end of two weeks she was nearly well, but was directed to report occasionally.

ATROPHY OF THE CHOROID.

M. McF., æt. 11, was sent to the hospital from the Pennsylvania Institution for the Blind, to have the condition and prospects of her eyes investigated. Each eye appeared to be in nearly the same state,—for each, $V = \frac{20}{C}$; and she read No. 3 Snellen at 12″, with difficulty. Her field of vision was remarkably contracted; it was nearly the same in all directions from the visual axis, its greatest diameter being three inches in the vertical and four in the horizontal meridian. She did not remember ever having had better sight. Ophthalmoscopic examination of each eye showed a slightly atrophied disk, diminished retinal vessels, and atrophy of the choroid. The pigment of the choroid had nearly all disappeared, and the vessels of that membrane could be seen distinctly ramifying through it, almost as well as in the eye of an albino. She was returned to the Blind Asylum, as there was no prospect of improvement, and she had not sight enough to enable her to receive an education in an ordinary school.

CEREBRAL AMAUROSIS.

E. H., æt. 17, a farmer's daughter, had good sight until three months before entering the hospital, when, on leaning forward for a few moments, suddenly everything became dark. For several months before this occurrence she had had occasional attacks of severe frontal neuralgia. She had suffered from obstinate constipation for more than a year, and for five years she had been troubled at irregular intervals with acute articular rheumatism. Her menses had always been regular.

She has one brother afflicted with hip disease, and one with phthisis. Her parents are living and healthy. No history of paralysis could be traced in her family.

Immediately after her loss of sight she had an attack of incomplete hemiplegia, involving the left side, slightly affecting its motion, and causing what she termed a "pins and needles" sensation, which at first reached from the left foot to the face, but which, when she came to the hospital, extended only to the knee.

She was not moody or dispirited, and her mind seemed clear. She experienced no tenderness of the spine on pressure. On closing her eyes in the dark, she had subjective impressions of flashes of light before the eyes,—the symptom known as phosphène or photopsia.

The girl was slightly stooped in figure. Her gait was staggering, with a tendency to lean towards the right side. She could stand alone on the right leg, but could not on the left.

She had slight external strabismus of the right eye. The internal rectus of this side was partially paralyzed; the other muscles were unaffected. Acuteness of vision in each eye equalled only $\frac{2}{CC}$, and her field of vision was much contracted.

The information obtained by the ophthalmoscope was

meagre and unsatisfactory. In the right eye, the fundus appeared normal; in the left, a slight striated opacity of the nerve-fibre layer of the retina was detected.

Her urine was tested and found normal. No signs of syphilis could be discovered, and no history of specific taint could be obtained.

The case was decided to be one of cerebral amaurosis, its exact nature unknown,—probably an effusion or morbid growth at the base of the brain.

She was ordered ten grains of iodide of potassium and one-sixteenth of a grain of the bichloride of mercury three times daily; she was placed upon a nourishing diet, and for the first ten days kept in a quiet, moderately-darkened room.

She remained in the hospital, gradually improving, for five weeks. When discharged, her gait was steady, and she could stand on either leg at pleasure. She had only a slight feeling of numbness in the left foot, and her vision equalled $\frac{18}{cc}$ in the right and $\frac{18}{L}$ in the left eye.

She was sent to her home in the country, with directions to continue the iodide of potassium and bichloride of mercury, and also to take in addition six grains of quinine daily.

MORPHIA AND CHLOROFORM.—M. Rabuteau, in the course of a communication to the French Academy of Science (*Bulletin Général de Thérapeutique*, May 15), says it is well known that the combined action of morphia and of chloroform will produce analgesia, without in all cases causing sleep. Moreover, a dog to which five centigrammes of narceia were administered hypodermically, and which was afterwards put under the influence of chloroform, was, upon awaking, found to be entirely deprived of sensation. It did not manifest the slightest pain when pinched or pricked, or when its feet were trodden upon, although it was able to walk and even to run about the laboratory. This extraordinary condition in which sensation was abolished continued for several hours. The same effects were produced, but in different degrees, by using bromoform or chloral with any of the other alkaloids of opium except narcotina. He says, further, that the alkaloids of opium may be classed, according to their effects upon man, as follows: As Narcotics—1, Morphia; 2, Narceia; 3, Codeia. The other alkaloids do not produce sleep. As Poisons—1, Morphia; 2, Codeia; 3, Thebaia; 4, Papaverine; 5, Narceia; 6, Narcotina. As Anodynes—1, Narceia; 2, Morphia; 3, Thebaia; 4, Papaverine; 5, Codeia. Narcotina has no power to relieve pain. Astringents—1, Morphia; 2, Narceia. The other alkaloids have no power to arrest diarrhœa.

THE PATHOGENESIS OF EXOPHTHALMIC GOITRE.—Boddaert (*Centralblatt*, May 11; extracted from the *Bulletin de la Société de Médecine de Gand*) found that he could cause exophthalmia in rabbits by ligating the external and internal jugular veins on both sides, and by dividing at the same time both the sympathetic nerves in the neck. The exophthalmia continued for several days, and until the collateral circulation had become established. In one case the corneæ of a guinea-pig were observed, a quarter of an hour after the operation, to be three millimetres more prominent than before, and three-quarters of an hour later seven millimetres more prominent than normally. The prominence of the corneæ could be made greater or less at pleasure, by changing the position of the animal, and thus increasing or diminishing the influence of gravity upon the circulation. The prominence became less marked upon compression or ligature of the carotids.

The ligation of the jugular veins without section of the sympathetic nerves produced only a slight prominence of the eyeball, which soon disappeared. The section of the sympathetics without ligature of the veins caused its retraction. An enlargement of the thyroid gland took place when Boddaert, in addition to the former operation, tied the inferior thyroid veins.

Boddaert is hence inclined to believe that Basedow's or Graves's disease is primarily due to a paralysis of the cervical sympathetic, which causes an increased frequency of the pulsations of the heart. This in its turn prevents the veins from being duly emptied during the diastole, and consequently gives rise to venous congestion, which may often be demonstrated to exist in this disease.

APPARENT DEATH AND ITS DETECTION.—Dr. M. Rosenthal has found (*Wiener Medizinische Presse*, May 5 and 12) that the susceptibility of the muscles to the faradaic current persists from one and a half hours to three hours after death, and is then extinguished. It continues longer in individuals who have died of acute affections than in those who have succumbed to chronic diseases. In a case of apparent death, he was able to demonstrate, by showing that the muscles still responded to the interrupted current, that life was not extinct, although death from convulsions (hysterical) was supposed to have taken place thirty-six hours before. He concludes, therefore, that the electrical current renders the diagnosis of death possible even before the occurrence of rigor mortis, and may be looked upon in cases of apparent death as the most reliable and delicate test of the irritability of the muscles and nerves.

THE BEST POSITION FOR THE REDUCTION OF STRANGULATED HERNIA.—Dr. Simorre recommends (*L'Abeille Médicale*, May 27, 1872) that in the reduction of a strangulated hernia the patient should be placed in the following position: A mattress having been doubled on itself, the patient is placed upon the inclined plane which results, in such a manner that his buttocks will rest on the most elevated part, and the front of the vertebral column, which corresponds to the epigastrium, upon the lowest part. His head and chest are supported by a bolster, and should be higher than the epigastrium, so that the muscles of the front of the neck, and of the chest and abdomen, shall be in a condition of extreme relaxation. The space at the foot of the bed made vacant by the doubling of the mattress should be filled up, so that the patient's feet may have a suitable support. He says that since he has had recourse to this method, in no instance has a strangulated intestine resisted his efforts at reduction.

THE REDUCTION OF HERNIA BY M. POTAIN'S ASPIRATEUR.—M. Demarquay (*L'Abeille Médicale*, May 27, 1872) exhibited at a recent meeting of the Academy of Medicine of Paris, a young man, twenty-one years of age, in whom he had reduced, only four days before, an umbilical hernia, after having removed by suction the liquids and gases contained in the strangulated fold of intestine.

After several efforts at taxis, a trocar was placed in the centre of the tumor, and—thanks to M. Potain's *aspirateur*—the liquids in the intestine flowed into the vessel which was intended to receive them. One hundred and twenty grammes of liquid, without counting the gas, were removed in this way. The tumor collapsed immediately; and it sufficed to press from below upwards to feel the intestine re-enter the abdominal cavity.

THE NATURE OF BLOOD-GLOBULES.—MM. Bechamp and D'Estor (*L'Abeille Médicale*, May 27, 1872), in a note to the Académie des Sciences of Paris, announce the following conclusions:

1. The corpuscles of mammals are small homogeneous masses protected by an envelope.

2. Thrown into dilute alcohol, they lose their hæmatoglobulin by exosmosis, and this becoming free is precipitated in the form of granulations, associated with the remains of the corpuscles from which they have been derived.

3. The granulations obtained in this way have no power to form cells, no matter how long they may be kept in alcohol at 45° C.

A LESION INVOLVING 'BROCA'S CONVOLUTION WITHOUT APHASIA.—Dr. J. Batty Tuke and Mr. John Fraser report, in the April number of *The Journal of Mental Science*, a case in which, after the death of the patient, a lesion was found which had destroyed posteriorly the superior fourth of the ascending parietal convolution, leaving a small portion of the knuckle in which the gyrus ends, the inferior third of the ascending frontal, the inferior margin of the second frontal, and the *posterior half of the third frontal convolution*. Notwithstanding the implication of Broca's convolution, the only defect in language was partial verbal amnesia.

ARREST OF EPISTAXIS.—M. le Docteur Marin, of Geneva, recommends, for the arrest of epistaxis (*Journal de Méd. et de Chir. pratique*, May, 1872), the compression of the facial artery as it runs over the superior maxillary bone near the nose.

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EDITORIAL.

DR. HUTCHINSON having resigned the editorship of this journal, his official connection with it will be dissolved after the issue of the current number.

SUNSTROKE.

THE current number of *Lippincott's Magazine* contains an article on this subject, from the pen of one of our most valued contributors, Dr. Horatio C. Wood, Jr., which is generally understood to be an abstract of the essay that gained for its author the "Boylston Prize" this year.

After passing in review a portion of the literature of the subject, the writer proceeds to discuss the various theories which have prevailed in regard to the pathology of sunstroke. The theory which he first adopted, that the symptoms of the disease depended upon an alteration of the blood, he considers to be no longer tenable. Referring to some experiments of Dr. R. Cresson Stiles, which were published in *The Boston Medical and Surgical Journal* for June, 1864, and in which it was shown that the blood of an animal that had died of sunstroke might be injected with impunity into the veins of another animal, he rightly conjectures that the symptoms do not arise from the development of a poison in the blood. He also proves that there is no loss of vitality either of the red or of the white blood-corpuscles; for the blood in sunstroke, although dark in color, becomes of a bright arterial hue when shaken with oxygen, which would not of course be the case if the red corpuscles were dead. The amœboid movements of the white corpuscles are, moreover, found to be exceedingly active in blood which has been gently heated. The proof appears then complete, he says, that the changes in the blood which undoubtedly occur in protracted cases of the disorder are secondary, not primary. The next step in his investigations was directed towards ascertaining what it is in sunstroke that kills, and why the heart and muscles are found so rigid after death. Subjecting myosine to different temperatures, he found that coagulation came on with great rapidity when the temperature was raised to 108° Fahrenheit, and that it occurred immediately at 115°. If a piece of muscle while yet limp and uncontracted be exposed to a moderate warmth, the post-mortem rigidity comes on much more quickly than when it is cooled. If a temperature of 110° be reached, the stiffening comes on in a very few minutes; at 115° immediately. These facts show very plainly the cause of the rapid appearance of the post-mortem rigidity in sunstroke; for in this disease the temperature of the body at the time of death is frequently above 110° Fahrenheit. It seemed, Dr. Wood goes on to say, a probable conclusion from these facts that the cause of death is coagulation of the myosine of the heart-muscle and consequent arrest of its action. But on opening the thorax of insensible animals when breathing had ceased, and when, therefore, the ordinary external appearances of death were presented, he found that the heart habitually continued to beat for a greater or less length of time after the arrest of respiration. The fact was thus established that in ordinary sunstroke death is brought about not through the arrested action of the heart, but by the failure of the respiration, and that the peculiar hardening of the heart takes place *after*, not *before*, death. This arrest of respiration Dr. Wood, in common with the older observers, believes to be of nervous origin.

The next step in the inquiry was directed towards the determination of what it is in sunstroke which so fatally oppresses the nervous system. As the agent is not in the blood, the probabilities appeared to Dr. Wood to be in favor of its being the heat itself. He shows by the following experiment that the nerves will bear, without injury, a temperature far above that which is reached in sunstroke. In an animal placed and kept profoundly under the influence of chloroform, the sciatic nerve was exposed, and so arranged that a stream of water of known temperature could be caused to run over it. By means of a galvanic battery the nerve was excited from time to time above the heated portion, and the conducting power of the latter thereby tested.

"The inquiry was," he says, "thus narrowed down to the nerve-centres, to which, consequently, the investigation was directed. A hog's bladder was fitted like a bonnet over the head of an animal, with tubing so arranged that hot water could be made to circulate through the bladder. It was found when an animal was so treated that *sudden insensibility, stupor with or without convulsions, and finally death from asphyxia, were induced.* As soon as death occurred, the head of the animal was opened and the bulb of a thermometer was plunged into the brain. It was thus ascertained that a brain-temperature of from 112° to 114° was fatal to a cat, and one of 114° to 117° to a rabbit."

The brain of man being more highly organized and more active than that of a lower animal, it is probable that a less degree of heat will produce in man the same set of symptoms. The mechanism of an attack of sunstroke Dr. Wood explains as follows:

"Under the influence of external heat the temperature of the body rises until at last a point is reached at which the heat paralyzes, by over-stimulation, this controlling centre (regulating animal heat); then a sudden additional rise of temperature, with a corresponding increase in the severity of the symptoms, occurs."

Holding this view of the pathology of sunstroke, Dr. Wood very naturally recommends the plan of treatment which is now almost universally employed by intelligent physicians, and which consists simply in the external application of cold water, both as a curative and a prophylactic remedy.

We have thus laid before our readers the principal points of this really admirable paper, which presents us with a fair résumé of what is known of the subject of which it treats, and with the results of some new experiments upon animals.

Although the article is a popular one, intended only for general readers, we think Dr. Wood would have done well to have mentioned the names of those who originated some of the experiments upon which he bases his conclusions.

We are rather surprised to find the author asserting that the theory which makes the symptoms of sunstroke depend upon an alteration of the blood was originally suggested by himself. This theory prevailed long before the appearance of Dr. Wood's paper on this subject, in 1863, and may be found alluded to by the late Dr. William Pepper, in some remarks made at the College of Physicians of Philadelphia, and reported in the *American Journal of the Medical Sciences* for 1851. It is also very fully discussed in a communication made to the same journal in 1859 by Dr. James J. Levick, who was so struck with the resemblance of sunstroke to typhus fever, that he proposes the name of "heat-fever" for it, and has given in his paper a table illustrating the comparative symptoms of the two diseases. He, moreover, recognized the fact that the changes in the blood were secondary and not primary.

Dr. Wood is disposed, we think, to attribute too large a share of praise to the experimental physiologist, in conducting us to a rational, scientific treatment. While fully sympathizing with him in his denunciation of the unreasoning sentimentalism which has rendered vivisection almost impossible in this city, and appreciating the fact that we are largely indebted to it for our knowledge of physiology, and to a certain extent also of pathology, we would remind him that it is dangerous to attempt to prove too much in support of a mooted question. Considering that the external application of cold water, or, what is even more efficacious as a refrigerating agent, ice, in the treatment of sunstroke, has been practised in this city for more than ten years, and that the cold douche has been long recommended by Indian physicians, it sounds rather oddly to hear that the *bedside* physician (by which term we suppose Dr. Wood designates a physician who is not a vivisector), being still utterly at sea as to the nature of the malady, is equally so as to what ought to be done for the patient's relief. Do we really owe to the experiments detailed in this paper the knowledge that the overheated body in sunstroke and fever is most readily cooled by its immersion in cold water, and that this constitutes the most rational as well as the most efficient plan of treatment in the former and very probably in the latter condition?

OUR DIRTY STREETS.

WE felt it to be our duty to comment in a former number of our journal upon the culpable neglect of the Board of Health of this city to adopt last winter, during the prevalence of the epidemic of smallpox, the proper measures to restrain its virulence. At the present time, it seems quite as difficult as then to arouse it from its inertness. Although the summer and its accompanying heat are already full upon us, and there is at least reasonable ground for fear, judging from the history of the disease in former years, that cholera may visit our shores during the next few months, no precautions seem as yet to be taken to protect us from its ravages. There are many parts of the city where a scavenger has not been seen for months, and there is no part of it, except where the work is done by private contract, which is more than moderately clean. When the city was fortunate enough to get rid of the Sewage Utilization Company, it was generally understood, if there was not a direct promise on the part of the Board of Health to that effect, that the streets of the city should be put in thorough order so far as cleanliness was concerned; but this promise has, to say the least, been most inefficiently carried out.

A sub-committee of the Citizens' Municipal Reform Association have recently called the attention of the Board of Health to the negligence of the contractors for cleaning the streets; but, in spite of the fact that this must be as patent to the members of that body as to every private citizen, they seem indisposed to act, and have contented themselves with adopting a resolution in which the Citizens' Municipal Reform Association were requested to forward to the Board all well-authenticated and definite complaints of neglect on the part of the street-cleaning contractors. It strikes us that this is shirking a responsibility which of right belongs to them. If they have the power to make contracts, the community certainly expects that they will see that these contracts are faithfully executed. If there is anything wanting in our city ordinances to give them full control over the contractors, it behoves them to bring this to the notice of the Councils of the city, or to that of the Legislature of the State, in such a way that the deficiency may be supplied.

We are glad, however, to see by the daily newspapers that the committee of the Reform Association have done the best they could under the circumstances, and have sent in to the Board a long list of complaints, to which, it is to be hoped, it will give immediate attention.

LIQUID NITROUS OXIDE.

OWING to the politeness of Prof. J. H. McQuillen, of the Philadelphia Dental College, we were afforded an opportunity of examining the apparatus for holding liquid nitrous oxide lately patented by Johnston Bros., of New York. This consists of an iron cylinder, twelve and a half inches long by three inches in diameter, into which one hundred gallons of the gas are forced by

compression. A morocco case is made to contain the cylinder and to protect the delicate valve with which it is provided from injury. When wanted for use, the gas is drawn off into an india-rubber bag capable of holding about four gallons, and provided with an inhaler, all of which is contained in the same case as the cylinder.

The advantages claimed for this method of using the gas are the facility with which large quantities of it can be transported, the greater purity of the liquid nitrous oxide as compared with that of the gas made by or furnished to dentists, and the consequent less risk in its administration. We learn that during the performance of the operation of ovariotomy recently in New York by Dr. J. Marion Sims, the patient was kept under the influence of this anæsthetic for one hour and a half.

CORRESPONDENCE.

OPHTHALMOLOGY ABROAD.

(Continued.)

To the Editor of the Philadelphia Medical Times.

I HAD wished to visit all the eye-clinics of London, with a view to compare their respective merits; but the loss of time incurred in spanning the great distances that frequently separate hospitals from one another, together with the fact that too often the hours of lecturing at one school conflict with those at another, had a great effect in preventing me from wandering much, and in keeping my attention pretty exclusively confined to Moorfields. This I thought at the time judicious, and my opinion was confirmed by what I afterwards saw. The above reasons prevented me from seeing Dr. Hughlings Jackson,—to whom Mr. Couper gave me a card,—Mr. Haynes Walton, of St. Mary's,—to whom I had a letter of introduction,—Mr. Carter, of St. George's Hospital, and Mr. Power, of St. Bartholomew's. After seeing the eye-surgery of St. Thomas' and Guy's Hospitals, I felt that I had spent as much time as I could afford in excursions from what I considered my legitimate work. I had met Mr. Bader in a London house, and he had given me a pressing invitation to visit his clinic,—especially to show me his operation for conical cornea. His operating hour is half-past one o'clock on Mondays. Punctually at that hour he came into the operating-room, which is in one of the new pavilions on the ground floor, well lighted by skylights from above. Mr. Bader is a very rapid, adroit operator: in two hours he must have done twelve or fifteen operations. I was told that he had done thirty at one sitting. Bichloride of methylene was the anæsthetic used. He has no less than fifty-five beds at his disposal. Iridectomy downwards and outwards for glaucoma was recommended since, as he alleges, that portion of the retina is the last affected. In a case of recurrent glaucomatous tension, where Mr. Bowman had operated on the other eye by an upward iridectomy, he made an incision in the centre of the cornea, introduced Liebreich's forceps, and, passing them quite over to the periphery of the iris, seized it, and, pulling slowly upon it, brought it all away. This was repeated in the other eye. This was his method of dealing with cases where iridectomy failed to relieve tension. Several cases of convergent strabismus were treated by the subcutaneous method of operation. Among the operations done to-day were almost all familiar to ophthalmic surgeons. Mr. Bader is a slender, graceful gentleman, of English appearance, but having a slightly-foreign accent. He is a German, but left that country during the revolution of 1848. A microscope was on a table near at hand, which he took occasion to use in showing a cretaceous lens to the students. In treating strictures of the nasal duct he does not use probes, but prefers to slit the canaliculus and afterwards to inject water through the duct. In cases where he had occasion to destroy the lachrymal sac, the galvano-caustic apparatus was used. For fixation of the eye, he used a pair of forceps of his own invention: they had sharp points with which to take hold of the sclerotic, thus obviating giving way or stretching of the conjunctiva. I could not see that their advantages counterbalanced the possibility that in certain cases the little punctured wound might give rise to trouble.

At Guy's Hospital, the impression made upon me was unfavorable: there seemed to be a striving after strong effects, that was not agreeable to witness.

At the new St. Thomas' Hospital,—one of the largest and most imposing of the London hospitals,—Mr. Richard Liebreich has charge of the ophthalmic department. Out-patients are seen every day, at two P.M.,—Thursday at three P.M. being the time for operations. Mr. Liebreich, formerly oculist to the French imperial family, left Paris during the war, and, being called to the chair of ophthalmology at St. Thomas', has settled permanently in London. I presented a letter of introduction from Dr. Knapp, of New York, and was treated with great courtesy. Mr. Liebreich is a pale, unhealthy-looking man, of apparently thirty-five years of age, with long black hair, mustache, and beard. He speaks English with a little effort, but he has very little hesitation in lecturing. His clinic is quite small, as it has only been organized during the last two months.* On the walls of the clinic-room were the chromo-lithographs so familiar to us from his Atlas, framed and glazed, for reference to by the students. The ophthalmoscope-room was not nearly so large as that at Moorfields, having only three burners fitted; the walls were blackened, and the entrance was still further protected from light by double black worsted curtains. The operating-theatre here pleased me more than any I had yet seen. One improvement, that struck me as being a decided one, was that the platforms on which the spectators stood were movable, and could be shifted so as to secure the best light,—an object that has to be considered in the London winter.

Mr. Liebreich did two of his new extraction-operations. He used no anæsthetic, no speculum, no assistant to hold the upper lid, nor any fixation-forceps; and all his instruments for the operation were contained in one handle. At one end was the narrow Graefe knife, at the other the David spoon, whilst the cystotome, by means of a button, could be protruded or retracted at pleasure. He stated that his object was to reduce the operation to the simplest possible detail. His hand is so tremulous that it is almost painful to see him operate; and yet he operates well; for certainly his results, as I saw them, were admirable.

Having seen the principal English ophthalmologists, my desire was to see their distinguished German confrères. Graefe was gone, and Schweigger I did not especially care to see: so I concluded to turn my steps to Vienna instead of Berlin. I went by way of Paris, and there called upon M. Wecker, at No. 7 Avenue d'Antin, Champs Elysées. He

* This was written in November, 1871.

was very kind and polite, and, learning that I was on my way to Vienna, was good enough to offer me letters of introduction to Professors Arlt and Jaeger. I already had a letter to Prof. Arlt, but was happy to receive one to Prof. Jaeger. M. Louis de Wecker lives in elegant apartments, containing a number of fine paintings by Van Dyke. In person he is small, of compact figure, of the blonde German type, with hair slightly tinged with gray. He appeared to be about forty-five years of age. He spoke of his operation for tattooing the cornea with India ink in cases of irremediable opacity, merely to conceal the deformity, and said that he had sent a communication to Knapp's Journal, in New York, describing it. He invited me to be present at his clinic on the following day at two o'clock, to see the operation. This is held at No. 55 Rue Cherche Midi, on the other side of the Seine. The house stands back from the street, is approached through a court-yard, and appears to have been a stately mansion in its day. An Austrian flag (M. Wecker's nationality) from one of the upper windows spoke of the trials of the siege. The doctor not arriving at the hour appointed, I had time to look about me. There was a large waiting-room for patients, and a handsomely-decorated consulting and ophthalmoscope-room. The greater part of one wall was occupied with framed pictures from Liebreich's and Jaeger's Atlases. Of the latter, M. Wecker has lately published a French translation. The test-types used were those of Snellen and Giraud Teulon. A light circular blackboard was used for determining the extent of the field of vision. Coccius' ophthalmoscope is preferred to others. In the clinic, the usual average of corneal and conjunctival inflammations was to be seen. In chronic granular conjunctivitis, a favorite application was one of equal parts of lead-water and water. For phlyctenular conjunctivitis, Pagenstecher's ointment of the amorphous yellow oxide of mercury was mostly relied upon. He was careful to make each application himself, sitting down with an apron over his knees, and seeming to be very careful and painstaking. The assistant or nurse in the operating-room here, as at Moorfields and Guy's, was a woman. For the operation of tattooing the cornea, a little girl of eight years was brought in with a dense leucoma of the whole of the left cornea. A portion of India ink was rubbed upon a plate, and the surgeon, using a narrow grooved needle, dipped it in the pigment, and pricked the latter into the cornea by a series of little punctures as close as possible to each other. The process is exactly the same as that by which sailors tattoo their bodies; and at a little distance the eye presents a general dark appearance instead of the glaring deformity of the previous opacity. The pain of the operation was stated not to last more than half an hour, and the patients could attend to their occupations immediately after it was over. Owing to the bad weather, the clinic was not so well attended as at other seasons of the year. M. Wecker showed me an ophthalmoscope of his invention for the purpose of exhibiting the fundus oculi to two observers at the same time. This is done by means of a plano-convex lens fastened to two rectangular prisms. An observer looks through the mirror in front, a second through the convex lens at right angles to the prisms. I tested the apparatus, and it was satisfactory; the only objection that I saw to it in practice was that it took a long while to get the focus properly placed. For fuller details of the instrument than my limits permit me to give, I would refer the reader to an abstract in the Ophthalmic Hospital Reports for November, 1871.

From Paris I went to Vienna; and among the first objects that I sought in that beautiful city was the General Hospital. A friend living in Vienna made an appointment for me to meet Prof. Arlt at ten o'clock the morning after my arrival. As I went alone, I had some difficulty in finding his clinic, especially as my cabman appeared never to have been in the hospital court-yard before. The General Hospital is an immense series of buildings around nine hollow squares; and Arlt's clinic is at the end of one of the most distant. He did not arrive until half-past ten o'clock. He does not speak English, but his son, and Dr. Schulek, his assistant, both do. Prof. Iwanhoff, of Kiev, well known as a writer upon ophthalmology,—a thin, pale young man in spectacles,—was present as a visitor. Prof. Arlt is a very homely man, of about sixty years of age, very like his photographs, of plain, earnest manners that impress one strongly as to his thorough honesty, and, like the majority of the German professors, exceedingly careless of his personal appearance. In going around the wards he was very minute and particular in his explanations to the students. He performed iridectomy for ectasia of the cornea, making the incision with a keratome, and seizing the iris with a small forceps like Fischer's iris-forceps. He makes it a rule always to bandage one eye while he operates upon the other. For dressing afterwards, he uses charpie and a flannel bandage. We went from bed to bed in the ward, and the Professor called up cases of interest and made remarks upon them. Phlyctenular conjunctivitis, or corneitis, is a term that he does not allow. He calls the disease "corneitis lymphatica." Where corneal ulcers exist, he uses atropia solution; and where they are not present, the insufflation of calomel. After passing through the wards, he enters a prescribing-room for out-patients and seats himself at a little table. Circular benches at graduated heights surround him for students. He announces aloud his diagnosis and the treatment to be pursued, and makes such remarks as he may judge proper upon the disease, while a clerk at his side makes the necessary registry of the case. Ophthalmoscopic cases he refers to his son and Dr. Schulek for examination.

I also paid several visits to Prof. Edward Jaeger's clinic. He lectures very colloquially, with the students gathered around him on chairs. The hour is from eight to ten daily. His course is not so crowded as Arlt's, as it is not incumbent upon candidates for the doctorate to take it; but it is attended by medical men from foreign countries, and altogether a higher class of students. Dr. Schnable, his assistant, has charge of instruction in ophthalmoscopy. There must have been at least fifteen burners fitted in the room, and the supply of material was abundant. Jaeger's weak-light mirror was used exclusively. Dr. Schnable disapproved of the bright light of my Loring ophthalmoscope. He admired its workmanship very much, but objected very decidedly to its cost, stating that it could be made in Berlin for ten dollars. On showing it to Leiter, a prominent Vienna instrument-maker, I found that it was evidently a novelty to him, and he desired to have it for a few days as a model.

Before leaving Vienna, I paid a visit to Stellwag's clinic. This is held at the Josephinum, the school for military surgeons. Here the students were in uniform, and wore side-arms. Stellwag sat with his patients behind a railed enclosure, in front of which was the large class. Although he is so well known at home through his book, I found that very few of my countrymen here had heard him. This comparative iso-

lation strikes one as very curious when met with for the first time. You will constantly hear the old students in Vienna say that they have not heard a well-known man; and in explanation you are told that each day has its duty in the special course of study being pursued, and that they do not feel disposed for mere sight-seeing; or they postpone the visit until the eve of departure, when it will probably not be made.

London, under certain circumstances, may be a better school for the study of ophthalmology than Vienna. This will be the case where the sojourn abroad is to be limited, and where the student is ignorant of German. In London he would have the large field of Moorfields open to him, and the advantage of following the sagacious practitioners and admirable operators of that house, whilst he would find the German school well represented in Mr. Liebreich. But if the student is a good German scholar—or, if not, has time at his disposal to make himself such—he had better go at once to Vienna. There teaching, both theoretical and practical, is carried to admirable perfection, and the student enjoys the great advantage of having all his clinical opportunities at hand, and is not obliged to go to and from distant hospitals.

In England, as with us, teaching is too apt to be but a step to something else, to be relinquished when that something considered more desirable is attained. In Germany it is looked upon as the business of a man's life: he begins as a teacher and he expects to end as a teacher, and as a consequence the instruction is more painstaking and more thorough.

Very respectfully yours,

A. D. HALL, M.D.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MAY 23, 1872.

PRESIDENT DR. J. H. HUTCHINSON in the chair.

DR. JOHN H. PACKARD presented a specimen of *epithelioma of the epiglottis.*

Mr. H. P., æt. 76, a truck-farmer, and a very hale man, thought he caught cold in October, 1871, and suffered all winter from sore throat.

Dr. P. saw him first on the 27th of February, 1872. He was very much emaciated, and almost unable to swallow; but his voice was only slightly affected, and nothing could be seen in the fauces except slight congestion. On either side of the neck an enlarged and tender lymphatic gland existed. No laryngoscopic examination was practicable.

He had occasional bloody sputa, and a constant and copious discharge of very offensive thick mucus. His breath was extremely fetid.

Almost the only treatment available was the use of detergent gargles.

He died, worn out, on the 29th of April.

A post-mortem examination of the neck and chest showed a growth about as large as a walnut, occupying the place of the epiglottis.

No other disease was detected, except deposits (probably secondary?) in the cervical lymphatic glands.

Owing no doubt to the slowness of his death, a very large pale clot branched from the heart along all the larger blood-vessels as far as they could be traced.

Dr. R. M. BERTOLET said that the starting-point of many of these growths was the epiglottis itself. Various plans for their removal have been suggested, but there is always difficulty, owing to the depth at which they are seated. Several cases have been successfully operated upon for the time being by the galvano-cautery. The trouble after these operations is the extensive ulcerative surface which remains behind, which, however, is not greater than is frequently met with in syphilis and phthisis, and the chances for prolonging the patient's life are increased by the operation. Dr. B. recollected a case where a secondary deposit occurred in the lung. Frequently the disease extends down the aryteno-epiglottidean folds, and often sudden death supervenes from œdema or occlusion, in consequence of neglect of the physician. These cases should be watched with great care, for in many instances life may be preserved by laryngotomy. Again, as the majority of cases extend from the epiglottis to the aryteno-epiglottidean folds, the operation by galvano-cautery should be done early.

Czerny has proposed the removal of the larynx entire in these cases. He has experimented upon dogs and kept them alive for two or three weeks without a larynx, nourishing them by means of a catheter.

Prof. Billroth alone has attempted this operation on the human subject in two cases, excising great portions of the larynx; but both patients died almost immediately after the operation.

Dr. JOHN ASHHURST, Jr., believed the best procedure in cases of tumor of the epiglottis admitting of operative interference, and not admitting of laryngoscopic treatment, to be that described by Malgaigne under the name of *sub-hyoidean laryngotomy*, and recently revived by Langenbeck under the name of *sub-hyoidean pharyngotomy*. This consists essentially in a preliminary tracheotomy, and a subsequent transverse incision below the hyoid bone, dividing the sterno-hyoid and omo-hyoid muscles, and opening the thyro-hyoid membrane and the mucous membrane of the pharynx. The tumor, being thus fairly exposed, can be removed in whatever way may be thought best, the flow of blood into the air-passages being prevented by plugging the glottis, while respiration is carried on through a tube introduced by the tracheal wound. These operations are chiefly adapted to cases of non-malignant tumor, complete extirpation in the case of a malignant growth being rarely practicable, while a partial removal would be worse than useless. In the present instance (one of malignant growth) the fatal issue appears to have been due to gradual exhaustion, without any interference with respiration or other symptom directly referable to the presence of the tumor. Hence an operation was not called for, and indeed would have been contraindicated by the advanced age of the patient.

REVIEWS AND BOOK NOTICES.

INJURIES OF NERVES AND THEIR CONSEQUENCES. By S. WEIR MITCHELL, M.D., Member of the National Academy of Sciences, etc. 8vo, pp. 377. Philadelphia, J. B. Lippincott & Co., 1872.

The author of this handsome volume has had unsurpassed if not unequalled opportunities for the study of injuries of nerves, and, it is but just to add, has, in the pages before us, amply proved his ability and willingness to utilize those opportunities, and to render available to his professional brethren the rich fruits of his large experience.

In the early part of the year 1863, Dr. Mitchell was placed at the head of a military hospital specially organized for the treatment of lesions of the nervous system, and, having been wisely relieved from the administrative duties which under ordinary circumstances necessarily occupy so large a portion of an army surgeon's time, was enabled to give his whole attention to the professional care of the patients under his charge, and to the scientific investigation of their cases, and, with his able colleagues Drs. George R. Morehouse and Wm. W. Keen, quickly justified the wisdom of the course which had been pursued, by the preparation of a report upon Reflex Paralysis, which was issued as a circular by the Surgeon-General's Office in March, 1864, and by the subsequent publication of a small volume on "Gunshot Wounds and Other Injuries of Nerves," in the autumn of the same year.

This book has been long out of print; and as Dr. Mitchell's later contributions to the subject of nerve-injuries, in the reports of the U. S. Sanitary Commission and elsewhere, are somewhat scattered, and more or less difficult of access, he

has, we think, done wisely in bringing together in the present volume the most important parts of what he has already published, together with much new matter, and thus furnishing a more complete treatise on the subject than has hitherto existed in our own if not in any language, and one which we do not hesitate to declare will at once be received as authoritative, and will ever remain a lasting monument of its author's industry and ability.

The limited space at our command will not admit of our going over this volume, as we should like to, page by page and chapter by chapter, analyzing the facts presented by the distinguished author, and discussing his arguments; and we must therefore be content to indicate the general plan of the work, and to invite our readers' attention to one or two points which, in our study of its pages, have seemed to us particularly worthy of notice.

The whole work is divided into fourteen chapters, of which the first is purely introductory; the second and third are respectively devoted to the anatomy of nerves and to the subject of neuro-physiology, the fourth to the physiological pathology of nerve-lesions, and the fifth to a consideration of the varieties of mechanical injury to which nerves are subjected; in the sixth, seventh, and eighth chapters are discussed the symptoms of nerve-injuries—the early and later symptoms and sensory lesions being successively considered; in the ninth chapter, the diagnosis and prognosis of nerve-injuries; and in the tenth, eleventh, and twelfth, the important subject of treatment. The last two chapters are respectively devoted to a consideration of the lesions of special nerves and the neural maladies of stumps.

One of the many interesting questions touched upon by Dr. Mitchell is that of the pathology of tetanus:

"There is a prevalent belief," he says, "that tetanus is more apt to arise when large nerves are slightly hurt than on other occasions; but although there are on record many cases where this terrible malady has followed the inclusion of nerves in ligatures, in the mass of tetanic histories the casual irritation has arisen in the extreme distribution of nerves, and where there has been no proof of precedent injury to large trunks. . . . In two hundred recorded instances of wounds of great nerves which passed under my eye during the war, not a single case of lockjaw was seen. . . . In fact, the tendency towards irritation, resulting in spasm, seems to increase as the nerves divide and approach the skin. Brown-Séquard succeeded once in causing tetanus by leaving a rusty tack in the foot of an animal. I have never been able to get this result by any method, nor in some seventy sections of [*Qu.*, or] wounds of nerves in animals have I ever encountered it."

Are we mistaken in thinking that this significant record of experience tends indirectly to favor the view advanced by Richardson, that tetanus is primarily not a disease of the nervous system but of the blood?

The practical surgeon will turn with special interest to the author's arguments in favor of the employment of sutures in cases of completely severed nerves. Although the notion that the use of a suture may permit primary union of a divided nerve is certainly incorrect, there is, according to Dr. Mitchell, reason to believe that it will hasten the return of healthy function, and (which is even more important) that it will not in itself entail any additional risk upon the patient. Hence Dr. M. concludes that there is "justification for the employment of sutures in any nerve-wound, and especially where there has been loss of substance, as after removal of a neuroma."

Various modes of applying nerve sutures have been recommended: thus, Nélaton, we are told, employed a fine silver wire, passed through the two extremities of the nerve so as to bring its cut surfaces into accurate apposition, the wire being then secured by drawing its ends through a delicate tube which was allowed to project from the wound. Vulpian (in animals) makes use of a single linen thread, passed through the cut ends of the nerve; while Dr. Mitchell himself has employed one or more threads, passed through the loose tissue connected with the sheath of the nerve, rather than through the nerve itself.

It occurs to us, from a theoretical consideration of the subject, that a better plan than any of these would be to use a fine pin or needle and delicate wire loop, much in the way that has been recently suggested by Mr. Mason, of St. Thomas' Hospital, for the treatment of ununited fracture.

Dr. Mitchell's volume is very handsomely printed, and its general appearance is in every way worthy of its literary and scientific excellence. We have noticed a few misprints, but with the exception of one or two incorrect references, and the use of the word *labial* for *radial* in the table on page 88, they are quite unimportant.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD. Second Edition, enlarged and thoroughly revised. By J. LEWIS SMITH, M.D., Curator to the Nursery and Child's Hospital, New York; Physician to the Infants' Hospital, Ward Island, etc. 8vo., pp. 740. Philadelphia, Henry C. Lea, 1872.

The first edition of Dr. Smith's work on the "Diseases of Infancy and Childhood" was published in 1869, and the demand for a new edition in 1872 shows that it has met with a fair degree of success. This success was, moreover, not unmerited; for, although the book was then incomplete, since many diseases which are generally treated of in similar works were not alluded to, it contained the results of much experience and of a good deal of reading. The present edition is much fuller than the first; for the author has not only rewritten some of the chapters, wherever the advance of medical science seemed to make this necessary, but has added much new matter.

After a very few general remarks on the subjects of infancy and childhood, Dr. Smith devotes a chapter to the "Care of the Mother during Pregnancy." This may appear to some unnecessary in a treatise of this kind; but there can be very little doubt that the health of the child will often depend upon the care which is taken of it during its intra-uterine existence, and we think he has done well in introducing it.

The care of the new-born infant forms the subject of the succeeding chapters. The author insists upon the great importance of attention to the diet and clothing of children, especially during the months immediately succeeding birth; and raises his voice in warning against the folly of attempting to harden them by exposure to cold, or by insufficient clothing. The directions which are given for the preparation of artificial food, when for any reason the child is deprived of its natural nourishment, are very judicious. We have no doubt that the ignorance which prevails as to the proper substitutes for the mother's milk, is the cause of much of the infant mortality in our large cities; and we have seen many cases where serious intestinal symptoms have seemed to be due wholly to neglect of so simple a precaution as that of washing out the feeding-bottle after each time it was used.

Diseases and accidents incidental to birth are next treated of, and these conclude the first part of the book.

Part Second is devoted to constitutional diseases. The diathetic diseases, such as rachitis, scrofula, syphilis, and tuberculosis, the eruptive fevers, the non-eruptive diseases, including diphtheria, pertussis, and parotiditis, and other general diseases, not embraced under any of these heads, are discussed at sufficient length; and we regret that our limits do not permit us to give Dr. Smith's views on these subjects.

The third part is divided into five sections, which are headed as follows: 1. Diseases of the Cerebro-Spinal System; 2. Diseases of the Respiratory System; 3. Diseases of the Digestive Apparatus; 4. Diseases of the Circulatory System; 5. Skin Diseases. An appendix contains Dietary Formulæ; Remarks on the Prevention of Scarlet Fever, by William Budd, M.D.; Remarks on the Diphtheritic Membrane, by Dr. Edward Rindfleisch; Observations on the State of the Liver in Infantile Entero-colitis; and cases of Intussusception. This summary shows the nature of the contents of the book. Certain sections are much less full than others,—that of the Diseases of the Circulatory System occupying only twenty pages, and containing only one chapter, which is on "Cyanosis." More space is given to the Diseases of the Digestive Apparatus; and the fact that Dr. Smith has enjoyed unusual advantages for the study of them makes this section peculiarly valuable, especially to the American physician, who is oftener called upon to treat them than those of any other class.

Dr. Smith's treatment is, in the main, simple. Although

apparently believing firmly in the power of drugs to modify morbid processes, he is not an excessive doser. The formulæ which are distributed through the book are, no doubt, well adapted to the conditions for which they are recommended; but we do not think that the value of the book is enhanced by their insertion, and we doubt whether he who goes to the bedside to treat diseases with a certain prescription, especially if it have originated with another, written out on paper or engraved on his memory, will ever become a great physician.

The book, as we have already said, is a good one; and, as such, it gives us pleasure to call our readers' attention to it.

THE URINE AND ITS DERANGEMENTS,—WITH THE APPLICATION OF PHYSIOLOGICAL CHEMISTRY TO THE DIAGNOSIS AND TREATMENT OF CONSTITUTIONAL AS WELL AS LOCAL DISEASES; being a Course of Original Lectures delivered at University College, London. By GEORGE HARLEY, M.D., F.R.S., etc. With Illustrations. 12mo, pp. 334. Philadelphia, Lindsay & Blakiston, 1872.

This book consists of a series of eleven lectures, and is an admirable introduction to the study of the urine and its teachings. Dr. Harley is clear and positive in his style, which is well adapted to impress upon the understanding and memory of his readers the facts of which he discourses. He opens with a short comparative examination of the composition of the urinous discharges from birds, reptiles, carnivora, herbivora, and omnivora, and then passes on to the consideration of the characteristics of normal human urine, its appearance and reactions. Among the methods of ascertaining the specific gravity, the thousand-grain bottle is ignored and a "picknometer" is used in its place: this instrument is objectionable only on account of requiring a calculation involving fractions to obtain the desired result, its principle being the same.

On the authority of Kaupp* it is stated that urine may be reabsorbed from the bladder; the watery parts being first taken up, then the phosphates, chlorides, sulphates, urea, etc.

The second lecture is devoted to the consideration of the changes in the composition of the urine induced by age, sex, food, drink, medicine, and disease. On page 42, opium, morphia, conia, hyoscyamus, cannabis indica, citrate of iron and quinia, and quassia, are classed together as decreasing the total amount of urinary solids; and digitalis, atropia, colchicum, and carbonate of potash as increasing them. On pages 81–83, colchicum, quinia, digitalis, acetate of potash, atropia, and cod-liver oil are recommended as checking the formation and consequently the elimination of urea and uric acid. Alcoholic drinks, beer included, lessen the urea and increase the uric acid in the urine; tea and coffee have the opposite effect.

Lecture third considers urea, its chemistry, physiology, and pathology; ammonæmia and uræmia. Dr. Harley does not believe that urea is formed in the kidneys, and he founds his belief on the fact that it is found in the blood, chyle, lymph, and the various humors of the eye. Unfortunately, no notice is taken of the experiments of Oppler,† Perls,‡ and Zalesky,§ which seem to prove that it is formed by the kidneys, as the removal of the kidneys stops the formation of urea, while ligation of the ureters causes its rapid accumulation in the blood.

Our author considers urea to be a "*powerful irritant poison*," and the immediate cause of uræmia. On page 57 he expresses this opinion in these words: "*True uræmia depends on the arrested elimination of the poisonous material by the kidneys; true ammonæmia on the reabsorption into the circulation of the decomposed secreted product. I believe that urea is a far more dangerous poison than the substance into which it is decomposed,—namely, the carbonate of ammonia.*" The symptoms of ammonæmia he gives as follows: "*In ammonæmia the urine is ammoniacal when passed. The breath and perspiration are ammoniacal. The mucous membrane of the mouth is dry and shining, the complexion is sallow, and there is increasing emaciation. No dropsical symptoms are present. Convulsions are rare, but intermittent ague is frequent. Death is generally preceded by coma.*"

Lecture fourth considers uric acid, its chemistry, physiology, and pathology; its presence and significance in diseases of the heart, lungs, liver, spleen, and kidneys, in gout and some other diseases, and as sand, gravel, and calculi.

Lecture fifth, hippuric acid in health and disease; chloride of sodium—its uses in the animal body, the amount in the urine during disease, and its effects as a remedy.

Lecture sixth, urohæmatin, and the abnormal pigments met with in white, yellow, green, blue, and black urine—their clinical significance and treatment. The coloring-matter of normal urine, which is here called urohæmatin, is considered to be to the clinical physician of more importance than the majority of urinary ingredients, as it is an index to the wear and tear of the tissues. Dr. Harley claims for himself priority in the discovery and separation of this substance in 1851, and takes no notice of the investigations of Dr. Schunck, which were much later in date, but were very laborious and comprehensive. Dr. H. recognizes but one normal coloring agent. His process of extraction may be roughly shown in a few words. Heat the urine, and add nitric acid to set the coloring-matter free; agitate with ether, which will dissolve out the impure urohæmatin; and separate by means of decantation. No mention whatever is made of chylous urine.

Lecture seventh, phosphoric acid and phosphates in diseases of the spinal cord, brain, bladder, rickets, and other affections; phosphatic gravel and calculi, their diagnosis and treatment. This is a most interesting and instructive chapter, and draws attention to the fact that an excess of phosphates in the urine does not indicate a repletion in the system.

Lecture eighth, oxalic acid and the sulphates.

Lecture ninth, the clinical significance and pathological importance of the presence in the urine of inosite, creatin, creatinin, cholesterin, cystin (calculi), xanthin (calculi), leucin, and tyrosin.

Lecture tenth, diabetes mellitus, its nature and rational treatment.

Lecture eleventh, albuminuria with and without dropsy, in connection with Bright's diseases, heart- and liver-disease, pregnancy, fevers, etc. No recognizance is taken of the fact, as demonstrated by Pavy, that albumen, caseine, or gelatine, if injected into a blood-vessel, will be excreted unchanged by the kidneys; or that a hearty meal, consisting largely of albumen, after prolonged abstinence may cause the appearance of albumen in the urine.

Dr. Harley is very methodical in his treatment of his subjects; he considers each constituent of the urine separately, under the various heads of chemistry, physiology, pathology, and treatment. He is terse, clear, and decided in every portion, and is quite original. The work is a valuable addition to medical literature. It is furnished with a complete index.

THE CORRECT PRINCIPLES OF TREATMENT FOR ANGULAR CURVATURE OF THE SPINE. By BENJAMIN LEE, A.M., M.D. Philadelphia, J. B. Lippincott & Co., 1872. Pp. 77.

This excellent little work is in the main a republication of one of the papers contained in a volume now for several years out of print. The matters embraced in it are of the highest practical importance, and we can, from our own experience, indorse the views laid down by the author.

We have only space for a very brief analysis of these views, but trust that they will be carefully examined by all those to whom they may have hitherto been unfamiliar.

Dr. Lee justly insists on the importance of an early recognition of spinal curvature, in order to its arrestment before deformity has become inevitable, and has appended a valuable table showing the differential diagnosis between this and the other affections for which it is most likely to be mistaken. Contrary to the usual belief, and to the statements of systematic writers, the pain in antero-posterior curvature is referred, not to the spine, but to the front of the trunk.

Dr. Lee advocates an almost exclusively mechanical treatment, on the principle of straightening out the spine, so ingeniously developed by his former associate, Dr. C. F. Taylor, of New York. Of the apparatus we can only say here that it is so arranged as to bear, not on the projecting spinous processes,

* Parkes, p. 108.
† Beitr. z. Lehre v. d. Urämie, *Arch. f. Path. Anat.*, Bd. xxi. p. 260.
‡ Beitr. z. Lehre v. d. Urämie, *Königsberg. Med. Jahrb.*, Bd. iv. p. 56.
§ Untersuch. v. d. urämischen Process, etc., Tübingen, 1865.

but somewhat to each side of them, and to prevent, by means of stop-hinges, the shoulders and hips from so coming forward as to compress the diseased vertebræ and intervertebral substance. For this the oblique processes of the vertebræ afford fulcra.

An essay on Modified Suspension, reprinted from the Transactions of the Pennsylvania State Medical Society for 1870, occupies the last sixteen pages of our author's text, and is not inferior in value to the preceding portion of the book. The mechanical execution of the volume is unexceptionable.

MEMORANDA ON POISONS. By the late THOMAS HAWKES TANNER, M.D., F.L.S. Third and Completely Revised Edition. 18mo, pp. 155. Philadelphia, Lindsay & Blakiston, 1872.

The present edition of Dr. Tanner's Memoranda has been in great measure remodelled, to make it valuable to students as well as practitioners. Attention is paid to the clinical aspects of poisoning as heretofore, but closer attention has been given to its chemical bearings, and important and reliable tests and processes for separating the poisons from organic mixture have been added. The classification is new, and more valuable and suggestive than anything heretofore adopted.

DIARY OF A SPRING HOLIDAY IN CUBA. 12mo, pp. 124. Philadelphia, Porter & Coates, 1872.

This little book was originally intended merely for circulation among the friends of the author, but at the request of the publishers has been given to a larger circle of readers. As its name implies, it is not medical in character: it contains, however, some information in regard to the climate of Cuba which will be found of value to the physician; while general readers will gain from it a better insight into the manners and customs of the Cubans than is sometimes obtainable from more extended treatises.

Although no name appears on the title-page, we are at liberty to say that its author is Dr. R. J. Levis, the well-known surgeon of this city.

BOOKS AND PAMPHLETS RECEIVED.

Present State of Electro-Therapeutics. By A. D. Rockwell, M.D. Reprinted from the *American Practitioner* for May, 1872.

Fifty-Fifth Annual Report on the State of the Asylum for the Relief of Persons Deprived of the Use of their Reason.

Report to the Surgeon-General of the United States Army on the Minute Anatomy of Two Cases of Cancer. By Assistant-Surgeon J. J. Woodward, U.S.A. War Department, Surgeon-General's Office, Washington, D.C., 1872.

Lectures on the Principles and Practice of Physic, delivered at King's College, London. By Sir Thomas Watson, Bart., M.D., F.R.S., etc. In two volumes. From the Fifth Revised and Enlarged English Edition. Edited, with Additions and Numerous Illustrations, by Henry Hartshorne, A.M., M.D., Professor of Hygiene in the University of Pennsylvania. 8vo. Vol. i., pp. 880; vol. ii., pp. 992. Philadelphia, Henry C. Lea, 1872.

Amnesic and Ataxic Aphasia, with Agraphia and Temporary Right Hemiplegia, the Result of Embolism of the Left Middle Cerebral Artery. By T. M. B. Cross, M.D. Reprinted from the *American Practitioner* for April, 1872.

Eighth Annual Report of the Alumni Association of the Philadelphia College of Pharmacy, 1872.

ARTIFICIAL FECUNDATION.—M. Paul Labarthe describes, in *Le Mouvement Médical*, an instrument devised by M. Roubaud for facilitating the artificial impregnation of women. It is said that twelve cases are reported in which fecundation was successfully accomplished by the methods recommended by Dr. Marion Sims, of New York, and Prof. Courty, of Montpellier.

GLEANINGS FROM OUR EXCHANGES.

KIDINGA PEPO.—Under this name, Dr. James Christie, Physician to the Sultan of Zanzibar (*The British Medical Journal*, June 1, 1872), gives a detailed account of a disease which occurred epidemically in that island during the month of July, 1870. The symptoms of the disease bear a striking resemblance to those presented by "dengue" or "break-bone fever," as described by Dr. George B. Wood in his work on "The Practice of Medicine," but are thought by Dr. Christie not to be identical. The term "kidinga pepo" properly means "cramp-like pains, produced through the agency of an evil spirit."

"The disease was not ushered in by any observable premonitory symptoms, but was, in a very marked manner, a sudden seizure; the first symptoms being pain and stiffness of the muscles, more observable in the palms of the hands and soles of the feet, and elicited when any attempt at motion was made. In three cases under my charge among Europeans, these symptoms were observed on rising from the dinner-table. One of them, a very intelligent boy of about seven years, complained that he had difficulty in getting off his chair, owing to stiffness in the body. This was speedily followed by a general febrile state, varying greatly in intensity; the skin became hot and dry; the tongue red and spotted, but generally clean; the face of a bright scarlet color, disappearing on pressure, but returning when the pressure was removed. This discoloration was in every case peculiarly marked, extending from cheek-bone to cheek-bone across the bridge of the nose, and usually accompanied by a puffy swelling, indicating infiltration in the adjacent subcutaneous areolar tissue. The appearance was almost identical with the usual symptom of an attack of erysipelas of the face, and it was so well marked and invariable that I always regarded it as symptomatic of the disease. In addition to the stiffness first complained of, there was pain over the whole of the body, more especially in the shoulders, back, ankle-joints, and the soles of the feet; and towards the close of the first twenty-four hours there was swelling of the smaller articulations, and pain was always felt on pressure of the joints of the fingers and toes. There was also very obstinate constipation, and it was always necessary to administer very large doses of purgatives before any motion could be effected. The average duration of this, the first or febrile stage, was about forty-eight hours, the symptoms then beginning gradually to subside.

"The febrile stage was followed by a period of remission of from two to three days, during which the febrile symptoms were entirely absent, there being only general debility and occasionally slight muscular pains. The remission was usually so complete that it was with great difficulty that the patient could be persuaded to remain within the house, and the natives, as a rule, returned to their usual avocations.

"On the fourth day, there was generally a slight return of the febrile symptoms, but always much less severe than during the first stage, and in many cases there was no fever whatever.

"On the fifth day, the exanthematous eruption invariably appeared. This eruption resembled neither that of measles, rubeola, nor scarlet fever; but always appeared to me much more like that of erysipelas, with this important exception, however, that the discoloration was much less intense, and spread over the entire body within forty-eight hours. In regard to the wavy outline, the boundary between the affected and the uncontaminated tissues, the resemblance was complete. This eruption, even in the mildest cases, was always observable on the palms of the hands and soles of the feet; but it never originated there, its course being always from the head and face downwards. When this eruption had reached its maximum of intensity, the superficial lymphatic glands of the neck and face began to swell, and invariably the occipital glands. I never saw a case in which this did not occur. Swellings of the lymphatics of the neck, axilla, and groin were general, but not invariable.

"At about the same time that the lymphatics began to swell, the mucous membrane of the mouth and nose was implicated, and, in severe cases, that of the throat. In mild cases there were merely redness and tenderness of the mucous membrane,

but in severe cases there was an aphthous eruption, giving rise to great tumefaction of the lips and nose, conjoined with excessive pain, the mucous surfaces becoming quite raw.

"During the fifth and sixth days, the muscular stiffness and pain continued, and there was also severe articular pain on the slightest movement. On the seventh or eighth day, there was desquamation of the cuticle, and the acute stage terminated.

"The sequelæ of dengue seem to have been much less severe and prolonged than in 'kidinga pepo.' In cases of the latter, which had been allowed to run their natural course either through non-treatment or improper treatment, the symptoms for weeks and even months were most painfully severe, and far exceeded anything experienced during the acute stage of the disease. I was myself the first European attacked, and at an early period of the epidemic, when I knew but little of the very painful and prolonged effects of the disease. The attack came on very suddenly, a few hours after visiting a native lady who was suffering from a very severe attack. During the primary stage, I was necessarily confined to bed for one day; but although the muscular and articular pains were very acute, I was obliged to attend daily to my dispensary patients. On the fifth day, the general eruption appeared, and also the aphthous eruption on the mucous membrane of the mouth and nose. The muscular and articular pain was excessive, and it was with the greatest difficulty that I walked a short distance to attend a case of emergency. I had to remain out all night; but found it better to move about constantly, as the pain on rising from my chair was very severe after a short interval of rest. From having neglected, to a certain extent necessarily, the proper precautions, I suffered most severely for more than two months afterwards. There was general muscular pain and stiffness, but all was comparatively slight to the excruciating pain endured at the insertion of the deltoid muscle of the left arm. The slightest movement of the arm caused unbearable pain, and for several weeks the arm had to be supported by a sling. At that early period of the epidemic I had seen no very severe cases, the attacks being much more mild among the native than the European population. My first knowledge was, therefore, derived from my own experience, and I speedily became aware of the great importance of early and energetic treatment in order to insure the absence of such painful results.

"The parts most painfully affected during the chronic stage were the shoulder, wrist, and ankle-joints; and the pains were generally metastatic and recurring. It was very common for one joint only and the neighboring tissues to be affected, and the one most frequently attacked was the shoulder-joint. In some cases the pain was very distinctly articular, and friction was felt on movement of the joint, as if there had been absorption or arrested secretion of the synovial fluid. It was more common, however, for the severe pain to be complained of in the muscles, and in particular at the insertion of the deltoid in either arm. In addition to these semi-rheumatic pains, there were also chronic swelling and tenderness of the superficial lymphatics; and when the affected glands lay in exposed places, liable to pressure, as in the foot, they occasioned much suffering.

"The disease seemed to be communicable, for, as a rule, the entire household was attacked; but it was not at all common for two individuals in the same house to be attacked simultaneously: as one recovered, another was attacked. The Europeans suffered much more acutely than the natives, and very few escaped an attack. In no case did the disease recur in the acute form, and there were no fatal cases among either children or adults.

"*Treatment.*—After having treated a few cases as I would a case of acute rheumatism, with very unsatisfactory results, I adopted a different plan, which I continued throughout the entire epidemic. During the first day, I prescribed purgatives and five-grain doses of quinine, treating the case precisely as if it had been a case of malarious fever. Whenever the febrile symptoms disappeared, I administered iodide of potassium in four-grain doses, and continued it during the remission, and for a few days after desquamation of the cuticle had taken place. The effect of iodide of potassium was most marked, and, when it was administered at the time stated, I never had any trouble with the usual sequelæ, and the patient suffered but little from articular pains during any period of the disease. I know no medicine more entitled to the name of a specific than the iodide, its effects in subduing the disease being more marked than those of quinine in the treatment of malarious fever. Even in neglected chronic cases, where the pains had continued for months, relief was invariably afforded by the use of iodide of potassium."

TRACHEOTOMY BY GALVANO-CAUTERY.—In the Academy of Medicine, April 23, M. Verneuil (*The Boston Medical and Surgical Journal;* from *The Dublin Medical Press and Circular*) observed that tracheotomy, as usually practised, is a dangerous operation on account of the hemorrhages, which are so difficult to be avoided, and on account of the introduction of air into the veins. In the case of a patient, aged 38, nearly asphyxiated from tuberculization of the larynx, Verneuil performed tracheotomy by the aid of galvano-cautery. The point of the knife was heated to a dull red, and entered at the level of the cricoid ring. The instrument, moderately pressed, and slowly cutting, easily penetrated the skin for about a length of three centimetres. The knife, again heated, was carried again to the upper part of the wound, and then brought slowly down, dividing the aponeurosis and separating the thyro-hyoid muscles. A third time the knife was used in the same manner, cautiously and slowly, and then, two assistants pulling the wound asunder by hooks, the eye and fingers could easily detect the cricoid cartilage and upper rings of the trachea, which were naked and almost as visible as upon the subject. The cartilages of the first two rings were then divided by the heated knife. No blood was spilt during the operation. The operation lasted some six minutes. The patient did well, and ten days after the operation the tube was removed.

SYRUP OF THE IODIDE OF STARCH.—A preparation of this kind appears to be a mode of giving iodine (*The Practitioner*, June, 1872) in use among Italian physicians when ordinary preparations cannot readily be taken. The formula, in imitation of a secret preparation of Quesneville's, is: powdered starch, 24 grammes; distilled water, 350 grammes; iodine, 2 grammes; powdered sugar, 640 grammes. Boil the water and starch in a glass retort for three or four minutes, then filter through linen. When cold, mix very slowly, and triturate carefully with the iodine, which has been previously finely powdered with a small quantity of alcohol. Pour the mixture on to the sugar in a narrow-mouthed bottle, and shake. Let it stand one day; decant, and keep from the light. The result is a perfectly transparent syrup of a blue color, miscible with water. The dose is a dessertspoonful night and morning to commence with.

CONVULSIONS IN TUBERCULAR MENINGITIS.—Dr. Joseph Bierbaum, in the course of a long article in the *Journal für Kinderkrankheiten* for May and June, 1871, says that convulsions are rarely an early symptom of tubercular meningitis, but are much more apt to occur after the patient has been sick for a week or ten days. He is indisposed to attach more importance to the *tache méningitique* of Trousseau as a sign of the disease.

NÆVUS MATERNUS CURED BY SUBCUTANEOUS RUPTURE OF THE VESSELS.—Mezger reports, in *Langenbeck's Archives*, a case of telangiectasia cured in the following way: While the vein leading from the part was compressed with one hand, the vessels were ruptured by a sudden blow from the other. This was repeated several times, with the result of producing a complete cure without a cicatrix.

M. DUQUESNIL (*L'Abeille Médicale*, May 6; from the *Bulletin Général de Thérapeutique*) recommends the addition of the oil of eucalyptus to cod-liver oil, in the proportion of one gramme of the former to one hundred of the latter, to deprive it of its disagreeable odor and taste.

DISCOLORATION OF THE SKIN.—Dr. Ollivier calls attention, in the *Gazette Médicale de Paris*, May 18, to a peculiar blue discoloration of the face and arms in those whose occupation it is to polish silver.

M. FRONÉ reports, in the *Montpellier Médical* for February, a case of epithelioma of the lip successfully treated by the local application of creasote.

A NEW METHOD OF TREATING HYDROCELE.—Mr. S. Messenger Bradley, of Manchester, England (*The British Medical Journal*, June 1, 1872), recommends, after the liquid of a hydrocele is withdrawn, that the testicle of the affected side should be tightly strapped with soap-plaster. In four cases in which this was done, complete obliteration of the vaginal sac, and a consequent radical cure, took place.

MISCELLANY.

MORE HONOR FOR AMERICAN SURGEONS.—We learn with pleasure that the University of Oxford, England, has recently conferred the degree of Doctor of Civil Law upon our distinguished fellow-townsman Dr. Samuel D. Gross, Professor of Surgery in the Jefferson Medical College.

IT is said that Dr. William Stokes, Regius Professor of Physic in Trinity College, Ireland, and well known in this country as author of a work on the "Diseases of the Heart and Aorta," is about to be made a baronet.

THE SUMMER RECESS.—The spring course of lectures at the Medical Department of the University of Pennsylvania and at the Jefferson Medical College came to a close on Friday, June 21. At each institution the class in attendance is said to have numbered from fifty to seventy students. The recess will continue until the first Monday in September, when the course will be resumed. The lectures delivered during the autumn are always of an eminently practical character.

ANGLO-AMERICAN DIPLOMAS.—The following correspondence, which we take from *The British Medical Journal*, June 1, 1872, shows that the demand in England for bogus diplomas still continues:

"UNIVERSITY OF LOUISIANA, MEDICAL DEPARTMENT,
NEW ORLEANS, May 1, 1872.

"SIR,—The sale of diplomas in Philadelphia having been stopped by the withdrawal of the charters of the two offending medical colleges, English customers have turned their attention to Southern institutions; and, as you may see by the accompanying letter, it is only necessary that we should signify our willingness to engage in the business, to secure an abundance of customers.

"I am, very respectfully, your obedient servant,

"T. G. RICHARDSON, M.D., *Dean*.

"P.S.—You are entirely at liberty to publish the above note, along with the proposal for *diplomatic* correspondence.

"'PACKINGTON COLLEGE, 145 PACKINGTON STREET, LONDON,
January 13, 1872.

"'DEAR SIR,—Some friends of mine, legally qualified British physicians, are desirous of receiving honorary degrees of M.D., LL.D., etc. Will you be kind enough to let me know if you can assist them?

"'Yours, very truly, "'E. STURMAN.

"'In confidence.'"

Dr. Richardson also received a printed prospectus, announcing "Dr. Edward Sturman, M.A., F.G.S. Edin., Member of the Royal College of Preceptors," as "Principal of the Packington College for Ladies, Packington Street, London," and setting forth that "parents may feel assured that every effort will be made to give the pupils such an education as will fit them for the present lady-like state of society. Punctuality, cleanliness, and moral duties will be strictly inculcated, and the groundwork of religious belief laid by daily reading of the Holy Scriptures; but no sectarian bias will be given."

CONFESSION NO PROOF OF GUILT.—The *Lyon Médical* of April 28, 1872, refers to the case of a girl, aged twenty, supposed to be seven months pregnant. After an attack of hemorrhage, her size seemed to have considerably diminished, and the girl, being closely questioned on the subject, said that, becoming aware of a discharge, she repaired to the closet, where she stayed ten minutes. She added that all had escaped, but that she had no time to look, as she was being called by her mistress. A midwife and the parish surgeon both declared that the girl had been recently confined. She was now again assailed with questions, and told that, for her own sake, she had better make a clean breast of it, as no fœtus had been found in the closet. Perhaps, it was suggested, she had thrown it into the pig-stye. The poor creature at first denied such a thing, but at last confessed that it was so. A search was made, but no child was discovered. She was tried for concealment of birth, on her own confession, and sentenced to six months' imprisonment. The girl had not been taken into custody, in consideration of her free confession, and she quietly proceeded to the jail. When admitted, it was found that she was far advanced in pregnancy, and she soon gave birth to a healthy girl. By the French law she could no longer appeal, as more than ten days had elapsed since the verdict; but the judge, having the power of appealing within two months, did so, and the girl was acquitted.

The Lancet, of May 18, in commenting on this case, says, "This case shows that confession, which is always looked upon as the clearest proof of guilt, cannot always be relied upon. And what shall we say of the surgeon and midwife? The examination was probably hurried and incomplete, and the conclusion arrived at on seeing the signs of recent abundant hemorrhage."

A DOCTOR GONE MAD.—Dr. ——, one of the best accoucheurs of Paris, has been recently confined in the hospital at Charenton. His insanity manifested itself in the most singular manner imaginable. On the 11th of March he was permitted to go to his banker's to collect some money. At the moment the cashier presented his head at the little door of his desk, the doctor exclaimed, "Bravo! the infant presents by the head!" and, seizing the unhappy cashier by the hair, he pulled most desperately. The cries of the victim brought the employees, and it was with the greatest difficulty that they conducted the doctor to his house.

A PRIZE FOR AN ESSAY ON THE THERAPEUTIC USE OF CREASOTE.—We learn from the foreign journals that the sum of three hundred thalers (about $220) has been placed at the disposal of the medical faculty of the University of Leipsic as a prize for the best essay on "The Therapeutic Uses of Chemically-Pure Wood-Creasote." The essays are to be sent in to the Leipsic medical faculty up to March 31, 1873; and their relative merit is to be tested by clinical experiment.

A MEDICAL SCHOOL AT BORDEAUX.—A Faculty of Medicine is to be created at Bordeaux, to replace that of Strasburg. It is also in contemplation to establish a School of Medicine and a School of Pharmacy at Lyons.

A BUST of Delpech, the celebrated surgeon of Montpellier, has been recently placed in one of the public buildings of that town.

SMALLPOX IN VIENNA.—From January 1, 1872, up to April 20, inclusive, 458 persons (218 men and 240 women) have died in Vienna of smallpox.

A Strike among the Doctors' Coachmen.—A strike which interests physicians more than such movements usually do, has recently taken place in Edinburgh. The doctors' coachmen there have held a public meeting and passed the following resolution: "The doctors' coachmen, having met and taken into consideration the length of time they are daily on duty, and the additional Sabbath labor they have to do, resolve to bring the matter under the notice of their employers, with a view to some arrangement being come to which shall free them from Sabbath duty, and that a committee be appointed, with power by conference or otherwise to lay the matter fully before their employers, and to report to a subsequent meeting."

A Gold Coin swallowed by a Dog.—The following, which seems *apropos* to the communication on "The Swallowing of Insoluble Bodies by Children" which we have recently published, we take from a French journal. A dog which had been taught to fetch pieces of money swallowed one day a twenty-franc piece, which, in the absence of sous, had been thrown to him by his master. The animal, the journal goes on to say, finding the coin of sufficient value to keep, swallowed it. M. Weber, who was called upon in the emergency, administered to it purgatives and emetics, but without success. Sixty-four days later the dog fell sick, and, the next day, threw up the coin, and by way of interest two sous, which were covered with verdigris.

Quackery and the Religious Press.—At a recent General Methodist Conference a proposition was made to prohibit the publication of quack advertisements in the Church journal. The matter was referred to an appropriate committee. *The Medical Record*, from which we take this item, says, "We would suggest that not only the objectionable advertisements be ordered a refusal, but that every clergyman giving his individual endorsement to patent nostrums be deprived of his ecclesiastical rights."

Mortality from Smallpox.—The number of deaths from smallpox in Philadelphia during the weeks ending June 15 and 22, 1872, were respectively 19 and 19, of which 29 were of minors.

Mortality of Philadelphia.—The following reports are condensed from the records at the Health Office:

	For the week ending June 15.	June 22.
Consumption	51	35
Other Diseases of Respiratory Organs	36	29
Diseases of Organs of Circulation	16	17
Diseases of Brain and Nervous System	60	53
Diseases of the Digestive Organs	27	55
Diseases of the Genito-Urinary Organs	2	6
Zymotic Diseases	51	42
Cancer	7	1
Casualties	11	11
Debility	35	30
Intemperance	5	0
Old Age	13	7
Scrofula	2	3
Stillborn	18	15
Suicide	3	0
Tetanus	2	1
Tumors	1	0
Unclassifiable	9	5
Unknown	2	0
Totals	351	310
Adults	162	116
Minors	189	194

Infant Mortality during the Siege of Paris.—A writer in the *Journal für Kinderkrankheiten* for May and June, 1871, says that there are scarcely any records in the annals of medicine of a mortality among children so frightful as that which took place in Paris during the siege. This he attributes to the absence of observance of all hygienic rules, and to the bad quality and insufficient quantity of food. This affected the child either directly, or indirectly through the mother, who was further unfitted to be a good nurse in consequence of the exciting or depressing emotions of which she was constantly the subject. In the eight weeks from January 21 to March 17, 4703 children under one year of age died, and in the first week of this time as many as 800.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM JUNE 5, 1872, TO JUNE 18, 1872, INCLUSIVE.

Storrow, Samuel A., Assistant-Surgeon.—By S. O. 133, War Department, A. G. O., June 10, 1872, to report in person to the Commanding General, Department of the Lakes, for assignment to duty.

Brown, H. E., Assistant-Surgeon.—By S. O. 131, War Department, A. G. O., June 7, 1872, relieved from the operation of S. O. 118, c. s. A. G. O., and to report in person to the Surgeon-General for special instructions.

Coues, Elliott, Assistant-Surgeon.—By S. O. 120, War Department, A. G. O., June 6, 1872, the order directing him to report to the Commanding General, Department of Dakota, is suspended for four months.

Lauderdale, J. V., Assistant-Surgeon.—By S. O. 113, Department of the East, June 17, 1872, assigned to temporary duty at Fort Wood, N.Y. Harbor.

Pope, B. F., Assistant-Surgeon.—By S. O. 115, Department of the South, June 4, 1872, granted leave of absence for thirty days.

Loring, L. Y., Assistant-Surgeon.—By S. O. 113, c. s., Department of the East, assigned to duty as Post-Surgeon at Plattsburg Barracks, N.Y.

Campbell, A. B., Assistant-Surgeon.—By S. O. 128, War Department, A. G. O., June 4, 1872, granted leave of absence for six months, on Surgeon's certificate of disability.

Harvey, P. F., Assistant-Surgeon.—By S. O. 105, Department of Texas, June 7, 1872, granted leave of absence for thirty days, on Surgeon's certificate of disability.

NAVY NEWS.

CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FROM JUNE 1 TO JUNE 20, 1872.

Assistant-Surgeon R. A. Marmion ordered to the Naval Hospital, Washington, D.C.

Medical Director Wm. Johnson ordered as member of Examining Board, Washington, D.C.

Surgeon S. D. Kennedy detached from the Ossipee, and sick-leave.

Surgeon F. E. Potter detached from the Mohican, and waiting orders.

Assistant-Surgeon M. D. Jones detached from the Mohican, and waiting orders.

Medical Director J. C. Palmer appointed Chief of Bureau of Medicine and Surgery, and Surgeon-General U.S.N.

Surgeon-General J. M. Foltz detached from Bureau of Medicine and Surgery.

Medical Director Jos. Beale, Medical Director Geo. Maulsby, Surgeon T. J. Turner, Surgeon P. S. Wales, Surgeon A. L. Gihon, detached from Medical Examining Board, Philadelphia, and waiting orders.

P.-A.-Surgeon H. J. Babin, temporary recruiting duty, New York.

Assistant-Surgeon Adam Frank, temporary recruiting duty, Philadelphia.

Assistant-Surgeon E. C. Dunning detached from Naval Hospital, Washington, and ordered to the Powhatan.

Assistant-Surgeon D. Dickinson detached from the Powhatan, and waiting orders.

Assistant-Surgeon E. C. Thatcher detached from the Pawnee, and ordered to the Canonicus.

Assistant-Surgeon B. S. Mackie detached from the Canonicus, and ordered to the Naval Hospital, N.Y.